



**WISE Planet**

**Cohort 2 | Class of 2022**





## WISE Planet | Cohort 2 | Class of 2022

Congratulations	2
About WISE Planet	5
WISE Leaders	6
Zahra Abbasi	8
Faranak Afsar	10
Yasaman Amannejad	12
Mahdis Bisheban	14
Ariane Cantin	16
Kwan Chai	18
Marie Charbonneau	20
Becca Chubb-Way	22
Samantha Clarke	24
Tiffany Dang	26
Maryam Elahi	28
Kathleen Fritzsos	30
Mahera Jawaid	32
Jing Liu	34
Sepideh Maaref	36
Veronica Madonna	38
Anna Manko	40
Janice Miller-Young	42
Nisha Mohan	44
Thuntida Ngamkham	46
Olivia Petrus	48
Mariana Pinheiro Bento	50
Chandra Rajulapati	52
Pallavi Sehgal-Sidhu	54
Candace Toner	56
Erin Trout	58
Peichun Amy Tsai	60
Daniela Villasmil	62
Lisa Willis	64
Fan Xia	66
WISE Planet Team	68
Program Sponsors	72

# CONGRATULATIONS



*“Together, we can make a diverse, inclusive, equitable and just society.”*

***I dream for woman, for life, for liberty.***

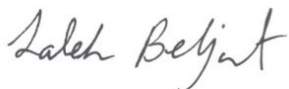
We have spent the last year on a journey to change the world together with a joint mission to empower our voices and shine light on our perspectives so that together we can not only dream of but also build an inclusive and just society. And we are on our way.

This year has been a year of many disruptions. It has also been the year when brave women and men have acted against tyranny and oppression and have asked for their rights, for peace and for prosperity. Through these actions we have learnt the value of being courageous and believing in truth. In the WISE Planet program, we have worked together to learn how to better lead the changes that can happen in our lives through change leadership skills, system analysis, design for disruptive technologies and sustainable development. I hope that this training has equipped you with the knowledge, skills, and network connections to position yourselves as the global leaders who will be making an equitable and inclusive future and I am looking forward to living in the future that you will build.

You each brought with you a leadership equity action plan (LEAP) project aimed at advancing recruitment and retention of women within your communities. Your projects created research and training opportunities for women from diverse backgrounds and geographical locations who may not have access to such resources and opportunities. Today we see the culmination of your research, hard work and aspirational thinking and we are all looking forward to seeing the world you will make.

You have already shown your leadership and you will be changing the conversations in our society to be inclusive and show your varied perspective necessary to ensure an equitable impact. I am so glad to have been part of this exciting journey with you.

Together, we will be the drivers of change.



**Laleh Behjat, PhD, P.Eng**

WISE Planet Program Founder  
Chair, NSERC Women in Science and Engineering – Prairie Region  
Professor, Department of Electrical and Software Engineering,  
Schulich School of Engineering, University of Calgary



***I dream of a deeper dialogue on the world stage.***

Our second cohort marked another inspiring year of growth as we explored what Change Leadership could and should look like with a new group of inspiring individuals from a diverse set of circumstances. However, looking backwards and feeling a sense of growth and inspiration can sometimes allow our selective memories to create a ‘hollywood-esque montage’ that doesn't capture the internal struggles and doubts that are part of any meaningful journey.

The Change Leadership Training program is an initiative built on a vision of a future that is dependent on yet to be discovered structures and procedures. So, the key for me in helping create and deliver the program has been to embrace uncertainty as a key part of growth. I feel like this learning is one that parallels many of our Cohort 2 participants’ journeys over the last year and it was an honour to get to be part of it.

Let’s all move beyond accepting, or simply being comfortable with uncharted paths and roadblocks – let's celebrate them as proof that we’ve discovered territory worth exploring. Let’s embark into the unknowns together with patience and understanding.

Cohort 2, it is our sincerest hope that regardless of what roles, companies, or life circumstances you find yourselves in in the future that you will stay flexible, stay alert, stay optimistic, stay connected and support one another, and always speak up!

**Jennifer van Zelm, MSc**  
WISE Planet Program Manager



***I dream of a more inclusive and sustainable world.***

Warmest congratulations to our second cohort of WISE Planet Change Leaders! We’re so proud of all you have accomplished over the last year.

It is a joy for me to be a part of the WISE Planet team and it has truly been an honor to work with such an amazing group of women. Your shared stories and discussions in our online sessions always inspired and invigorated me to keep doing this work. Your Leadership Equity Action Plan (LEAP) projects, which tackled issues such as creating a department EDI committee, making programs to support work-life balance and mental health in the workplace, addressing ageism in hiring practices, and ensuring equity in a hybrid work environment, reminded me that we all really can change the world if we start with our corner of influence.

Thank you so much for all your hard work! It has been a privilege to support and guide you as you’ve grown as change leaders in your organizations. We’re always here to provide advice, resources, and inspiration, so please don’t be a stranger. We’re confident in your leadership abilities and we can’t wait to see what you will do next. Let’s change the world!

**Stacia Thompson McCoy, PhD**  
WISE Planet Program Developer



## Women in Science and Engineering for a Sustainable Planet

The WISE Planet program began in February 2021 and to date has enrolled over 45 participants (in two cohorts) nominated from industry, non-profit organizations and universities across Canada. Over the last two years, WISE Planet has been on a journey to plan, implement and communicate strategies to build a diverse and inclusive future. The program goal is to empower the voices of equity deserving groups and showcase their perspectives so that together we can build a diverse, inclusive, equitable, and just society.

The one-year change leadership training covers four online learning modules, experiential learning through Leadership Equity Action Plan (LEAP) projects, and networking opportunities through the WISE Planet Network. The program is a journey that encourages creative, collaborative, agile planning skills while building up the participant's confidence to see themselves as agents of change.

### MISSION STATEMENT:

Create a diverse, inclusive, equitable and just society  
by training women and other underrepresented  
groups in STEM to be change leaders  
equipped to implement strategies and innovations  
that will build that society.

**Email:**  
[wiseplanet@ucalgary.ca](mailto:wiseplanet@ucalgary.ca)

**Website:**  
<https://www.ucalgary.ca/wise-planet>

**LinkedIn:**  
<https://www.linkedin.com/company/wise-planet-at-ucalgary/>

**YouTube:**  
<https://www.youtube.com/@wiseplanet>

## ABOUT WISE PLANET

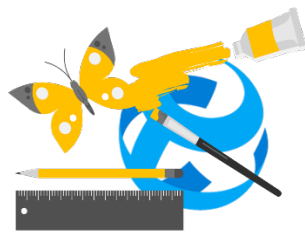


### Personal Leadership

The goal of this module is to explore implicit bias and its effect on leadership, conflict management style, and leadership style. The module also works on developing effective oral and written communication skills, personal branding and storytelling for science communication. Participants learn leadership tools to support change leadership and managing change.

### Culture & Systems

The goal of this module is to understand how culture defines our organizations, our actions, and our interactions. Participants also learn how systems and associated power structures are created and how systems perpetuate inequalities. The goal is to gain understanding of how to change culture and systems through strategy, collaboration, activism, and policymaking.



### Designing for Disruptions

The goal of this module is to learn how to design systems that are robust and can handle disruptions. Participants learn how to design strategy, perform uncertainty analysis and build scenarios for disruptive technologies. Participants gain an understanding of how to incorporate disruptions to make future plans better through creative process and scenario planning.

### Sustainability

The goal of this module is to understand that sustainability is a holistic approach in which the UN Sustainable Development Goal themes of nature, economy, wellbeing, and society are interdependent and interconnected. Participants explore sustainability topics such as Climate Action, Regenerative Design, Life Cycle Assessment, Gender Equality, and Policy Advocacy while learning how smaller, individual actions can collectively have a societal impact and how organizations can align their actions with their sustainable values.



### LEAP Projects

All participants undertook a Leadership Equity Action Plan (LEAP) project as part of their WISE Planet training. These projects aimed to address equity, diversity and inclusion (EDI) at the participant's partner organization through recruitment, retention or innovation initiatives.

## WISE LEADERS

The WISE Planet network of volunteers, mentors, and allies from academia and industry are an important component of the program.



**Jennifer Adams**  
University of Calgary



**Firas Ali**  
Worley



**Anne Benneker**  
University of Calgary



**Paula Berton**  
University of Calgary;  
CalAgua Innovations Corp



**Rolly Bhasin**  
Enbridge



**Alicia Bjarnason**  
CCWESTT



**Laura Curiel**  
University of Calgary



**Kirsten Eeuwes**  
EPCOR (Distribution &  
Transmission Inc.)



**Kelly Hall**  
Vermillion Power  
Technologies / Kelly Hall &  
Associates



**Heather Herring**  
Make it So Inc



**Chimene Kabriel**  
Worley



**Sandy Kennedy**  
Hexagon Autonomy and  
Positioning



The contributions of WISE Leaders as advisers, mentors and sponsors of individual participants or Learning Communities of participants, and their feedback on Leadership Equity Action Plan (LEAP) projects is a valued part of the WISE Planet program.



**Jason Long**  
Engenuics Technologies



**Jen Malzer**  
City of Calgary



**Laura Mislan**  
Enbridge



**Latha Nachiyamai**  
Garmin Canada



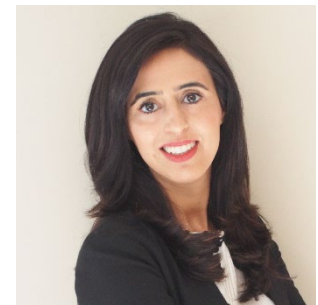
**Deirdre Norman**  
Imperial Oil



**Kyle O'Keefe**  
University of Calgary



**Bimal Patel**  
Synopsis, Inc.



**Monika Tamber**  
Payments Canada



**Jonathan Withey**  
Mount Royal University



**Amanda Woon-Fat**  
Synopsis Inc



**Serene Yew**  
Pixeltree Inc.

## ZAHRA ABBASI



*“I joined WISE Planet because I was mad at myself for getting angry when seeing inequality and I wanted to learn how to respond effectively instead of feeling sad and passive.”*

***I dream of seeing a world where not being a feminist is weird!***

### BIOGRAPHY

Dr. Zahra Abbasi is an assistant professor of Electrical and Software Engineering at the Schulich School of Engineering at the University of Calgary. Her research focuses on applied electromagnetics and sensors. She has been focused on developing flexible chipless microstrip structures for non-invasive medical applications (such as monitoring pH level, dehydration level, and alcohol level in sweat), microplastic contamination, and harsh environment sensing applications in industry. She received her Ph.D. in Electrical and Computer Engineering from the University of Alberta in 2020.

Zahra is the chair of the Equity Diversity and Inclusion Committee at the Department of Electrical and Software Engineering at the University of Alberta and a member of the Diversity and Inclusion Action Committee at the Schulich School of Engineering. Since 2021, Zahra is a volunteer at the The Table YYC, which is a charity that offers essential items to Calgarians in need.

## LEAP PROJECT

### Strategy Development for EDI Committee at the Departmental Level

It has been almost one year that the Electrical and Software Engineering (ESE) department at the University of Calgary has had an active Equity Diversity and Inclusion Committee. The ESE EDI committee promotes and supports EDI plans and initiatives in the department. In general, my goal is to develop, annually review, and update as necessary strategic plans to improve equitable access, diversity, and inclusivity in the department. Some of the items to consider during this project are:

- 1) Student recruitment (graduate and undergraduate): understanding the challenges they have (such as starting a family during school and biases they might face in a research group) and proposing potential solutions.
- 2) Figuring out how faculty members can be supported for grant development.
- 3) Working with other committees (graduate scholarships, Outreach & Promotion, research) to implement EDI considerations systematically in reviews, selection, and nominations rather than it just be relied on preference.
- 4) Education and increasing awareness: helping faculty with steps to make meaningful EDI improvements in the design of educational materials, program design, graduate student recruitment and retention, and research methods.

## FARANAK AFSAR



*“I joined WISE Planet to be part of a community that advocates for gender equality.”*

***I dream of a day when every little girl can pursue her dreams without facing gender discrimination.***

### BIOGRAPHY

Faranak is a Ph.D. candidate in the Chemical and Petroleum Engineering department at the University of Calgary. Her research focuses on designing magnetic contrast agents for reservoir monitoring applications, with the primary goal of increasing oil recovery efficiency while improving the environmental sustainability of the oil and gas industry. She is passionate about gender equality and participates in different programs that focus on empowering women and removing the gender gap with the hope of building a more equitable, diverse, and inclusive society. In her spare time, she enjoys exploring different hikes in the Rocky Mountains, culinary adventures, and captivating books.

## LEAP PROJECT

### Encouraging Female High School Students to Pursue STEM Disciplines at the University Level

Science, technology, engineering, and mathematics (STEM) are historically perceived as male-dominant fields. According to the most recent report by Statistics Canada, women only make up 34% of STEM graduates. Bridging the gender gap in STEM fields would have a noticeable impact on economic growth by increasing the employment rate as it decreases occupational segregation and skill gaps. There are different strategies to combat discrimination in STEM fields; i) Developing reliable metrics to identify/evaluate gender gaps, ii) Establishing more effective federal and provincial policies to ensure gender equality, iii) Promoting diversity in the workplace, iv) Initiatives to have female representation from the early stages of education.

This project focuses on initiatives that can have a positive impact on encouraging more female high school students to pursue STEM disciplines at the university level. Different studies have shown that extracurricular activities can effectively gravitate female students toward STEM fields. For instance, mentorship programs that offer opportunities for female high school students to spend time in research labs at university while being supervised are practical ways to help them explore possible careers in STEM fields. This project proposes different approaches to improve such programs to be more impactful by, i) sustaining the mentorship relationship with the female high school students after the end of the program to provide long-term support for students, ii) involving female high school students in research projects from beginning to end to create a sense of achievement and confidence in them.

## YASAMAN AMANNEJAD



*“I joined WISE Planet to learn more about and from the program.”*

***I dream of a transparent world with no hidden nature, and people who are authentic and true to themselves.***

### BIOGRAPHY

I am a professor at Mount Royal University with a background in Software Engineering. I grew up in a family where education was highly valued. In choosing my professional career, I was inspired by my parents, who were both educators, and my sister, who was a software engineer. I started my undergraduate degree in Computer Information Technology at Amirkabir University of Technology in Tehran, where I also completed my MSc degree in the same field. I moved to the University of Calgary in 2013 and completed my Ph.D. and post-doctoral in Software Engineering.

In 2018, I joined Mount Royal University as an Assistant Professor in the Department of Mathematics and Computing, and I am currently enjoying teaching students and doing research as part of my academic role. My research is focused on improving the quality of service for data-intensive applications. I enjoy collaborating with others, especially with people from outside of my field, and working with them on building solutions for real-world challenges.

### LINKEDIN

<https://www.linkedin.com/in/yasaman-amannejad/>

## LEAP PROJECT

### Support Tool for Dealing with Microaggressions

My passion for technology and my concerns regarding the frequency of the cases of microaggressions (MAs) in workplaces led me to think of a LEAP project that utilizes technology for dealing with MAs: how to respond when you or someone around you is subject to MA. After exploring some alternatives, I started working on building a virtual reality environment for scenario-based learning. The idea is to let people see themselves in a scenario where they can interact and impact the trajectory of the storyline and observe the consequences of their decisions in a virtual setting. This can be used as an educational tool for helping people learn how to appropriately respond if they or someone around them is not treated respectfully.

My biggest achievement on my LEAP project through the program was exploring different possibilities I had in mind and further clarifying the scope of the project and its requirements. I am currently at the early stages of the project. I have taken initial steps toward building a small prototype, and now, I am planning to expand the idea. I look forward to meeting with people interested in the project and getting feedback.

## MAHDIS BISHEBAN



*“I joined WISE Planet to train stronger leaders.”*

***I dream of an inclusive and diverse STEM education and workplace for all equity-deserving groups.***

### BIOGRAPHY

A mechanical and aerospace engineer with a Ph.D. from George Washington University, specializing in control, robotics, and mechatronics, Dr. Mahdis Bisheban joined the Department of Mechanical and Manufacturing Engineering in Schulich, University of Calgary, as an assistant professor in 2021. Before coming to Schulich, Dr. Bisheban did post-doctoral research in mechanical engineering at Queen’s University and worked as a Research Associate in Aerospace Engineering, with a focus on machine learning and artificial intelligence, at the National Research Council of Canada (NRC). Dr. Bisheban is helping to usher in a new era of autonomous flight; she develops control systems for uncrewed aerial vehicles (UAVs) and ground vehicles (UGVs). Equipped with state-of-the-art sensors, these crafts can map regions of the globe inaccessible to humans and are able to penetrate areas too toxic or dangerous for people, like chemical spills, and wildfires. Moreover, Dr. Bisheban’s work has applications in the exciting world of Urban Air Mobility (UAM), which develops small, low-flying passenger vehicles for commuter use.

She is committed to fostering Equity, Diversity, and Inclusion by recruiting a diverse group of students to her research lab and creating an inclusive environment with equitable resources for individual growth in her research lab, and in her classrooms and student clubs.



## LEAP PROJECT

### Enhancing leadership capacity and EDI within the student clubs at the University of Calgary

As an assistant professor at UofC, I am committed to fostering Equity, Diversity, and Inclusion, by recruiting a diverse group of students at my research lab, creating an inclusive environment with equitable resources for trainees' growth with different backgrounds at my research lab and classrooms that I teach, and by involving at student clubs.

I believe that defining equity, emphasizing its importance, and supporting and training equity-deserving students in leadership strongly empowers them to seize and create opportunities for themselves. Training leaders is more powerful than providing only an equitable and inclusive environment to the targeted groups. The leaders from the minority groups will be role models for future generations. This accelerates removal of the cultural barriers in society and encourages young people from minority groups to become future leaders. This reminds me of the famous proverb: Give a man a fish, and you feed him for a day. Teach a man to fish, and you feed him for a lifetime. Thus, we need to define projects to boost understanding of change leadership techniques to implement strategies and innovations that enable participants to transfer them to students.

The LEAP project goal is to bring leadership capacity into and enhance EDI within the student clubs at both undergraduate and graduate levels. This is to make sure that students with different personal, cultural, and academic backgrounds are invited and encouraged to join these clubs. Plans should be made such that students with diverse backgrounds are encouraged to take the lead in these clubs, e.g., this can be done by inviting speakers and encouraging students to take workshops offered by the university, introducing books, and learning materials to them. The collaboration culture among these clubs can be enhanced, e.g., by helping students to write reference letters for each other. Some international students may require more help enhancing their writing skills, thus appropriate resources can be introduced to them. Current members of the clubs should be aware of the importance of having a diverse team. The awareness and sensitivity of the team lead can be increased further to try to provide an inclusive environment for the club members. This can be done by encouraging students to attend workshops held by the office of EDI. These are some of the long-term actions, and I believe that these actions will help increase leadership capacity and enhance EDI within the student clubs at the University of Calgary.

## ARIANE CANTIN



*“I joined WISE Planet to build community and meet other women in science.”*

*I dream of all students following their dreams.*

### BIOGRAPHY

I am an Assistant Professor (Teaching) in the Department of Biological Sciences at the University of Calgary. As a biologist, my passion is aquatic ecology and conservation. I am involved in research projects working on the conservation of native fish species in the East Slopes of the Canadian Rockies, fisheries management, and urban wetland biodiversity. I recognize the privileges I have now and have had earlier in life that have exposed me to nature and research from a young age. Through the mentorship I provide students in the classroom and in other research projects, I try to lessen these privilege inequalities and ensure that all students get access to hands-on experiences. By giving research opportunities to more students from different backgrounds, I want to help improve diversity in science and encourage all students to pursue scientific studies and careers.

## LEAP PROJECT

### Making Teaching More Equitable in Biological Sciences

Supporting all students in an equitable manner means ensuring that they all have access to the support they need to be successful. Treating them fairly is the first step, but awareness on equity issues is key to build courses and foster learning environments where we motivate and engage students in ways that help them discover what goals they can have with their studies and support them to reach these goals. The undergraduate population of the Department of Biological Sciences seems relatively diverse but there are concerns that not all students are getting the support they need. My LEAP project focused on the inclusion of these students in our programs and documenting equitable teaching approaches that will support and help them all thrive.

While lots of research has been done and is currently being done on EDI in STEM education, our department currently does not have clear guidelines on what we should do to make our teaching more equitable. Busy faculty members often do not have time to sit through multiple days of workshop or read many articles on the scholarship of teaching and learning or discipline-based education research. Identifying clear and applicable ways through which we can make teaching more equitable in our department will help support all students and improve retention in our programs. Down the line, it might also help us recruit students as it can improve the reputation of our courses and programs.

Through my LEAP project, I first reviewed the literature on EDI in STEM education, but also read about approaches used at other institutions to improve equity in the classroom. These readings provided me with background and ideas, but the most interesting and thought-provoking information came from discussions with students and colleagues. Undergraduate and graduate students talked about their own experiences and hopes for the future of STEM education, and faculty members and staff brought up their concerns and reflected on their interactions with students.

My project is in the implementation stage, and I foresee it staying in that stage for a while, meaning that these discussions about equitable teaching will continue and inform our teaching practices. I still want to provide the department with a living document listing effective and realistic ways to improve equity in our classrooms, but, while working on my LEAP project, I realized that reflecting on equity and integrating it in our work on course development and curriculum review might be even more impactful.

## KWAN CHAI



*“I joined WISE Planet to gain skills and experience related to change leadership”*

***I dream of being able to mentor other women entering technical fields to empower them to pursue these opportunities.***

### BIOGRAPHY

I am an Application Specialist with Spartan Controls in the Reliability Solutions business unit and graduated from the University of Alberta with an electrical engineering degree specialized in biomedical engineering. With my team, I design reliability systems that help our end users operate their assets more effectively and efficiently with predictive condition monitoring systems. I moved to Calgary a few years ago and love the proximity to the mountains for hiking with my dog.

## LEAP PROJECT

### Gender Disparity in Outside Sales Roles at Spartan Controls Ltd.

The Spartan Controls LEAP project for Cohort 2 was a continuation of the work started by Cohort 1 – investigating the reasons behind the disparity between men and women in the outside sales roles. Interviews with the women currently holding these roles were completed, as well as an anonymous survey to all women at the company. After gathering this information, we are formalizing a strategy to attract and retain more women to outside sales roles. Approaches may include job shadowing, formal training and support networks to address concerns.

Acknowledging and addressing this disparity can help with retention and recruitment of women to outside sales roles and bring new skills and perspectives to addressing the challenges currently faced by outside sales roles.

## MARIE CHARBONNEAU



*“I joined WISE Planet to build leadership skills that will fuel my work in developing sustainable robotic solutions that respond to the needs of society and the planet.”*

*I dream of a gentler world.*

### BIOGRAPHY

Since September 2021, I have been working as an assistant professor in mechanical (and manufacturing) engineering at the University of Calgary, where I specialize in robotics. The winding path from Montreal (where I grew up) to Calgary included working as a design engineer for a couple of years, studying robotics engineering at various labs in Italy, Poland, Switzerland and France, and a postdoc at the wonderful Waterloo RoboHub. My favorite robots are big gentle humanoids that can dance with people. As simple as it may seem in science fiction, these robots are still extremely rare in real life! I hope that we can find ways to integrate technology into society in a way that brings more joy into the lives of people across the planet.

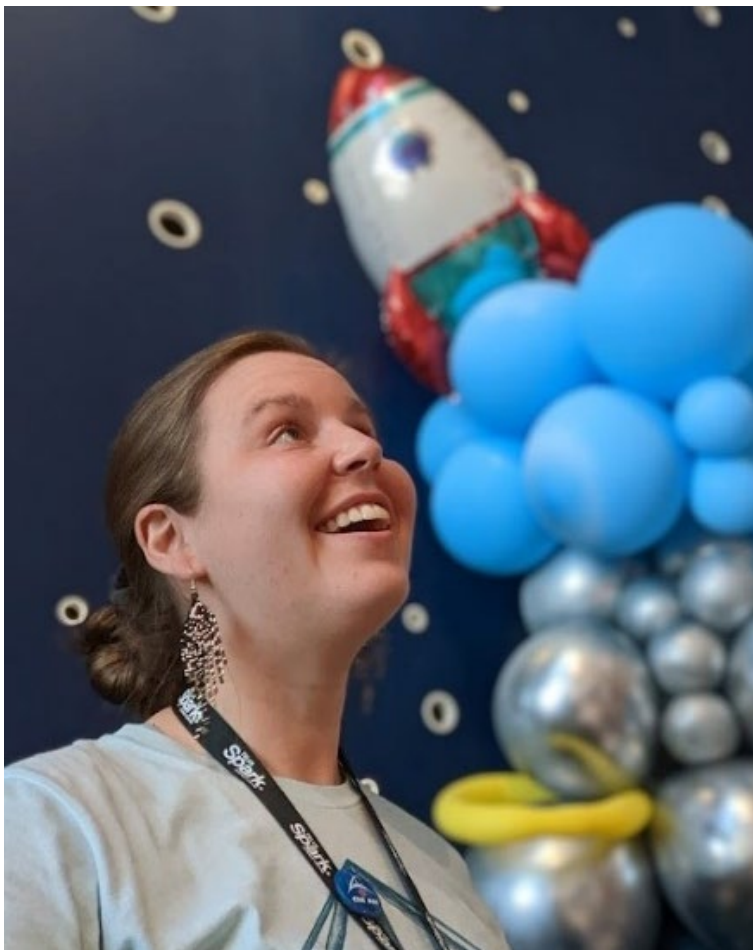
## LEAP PROJECT

### New Faculty Collaborative Resource Sharing Platform

Starting as a new faculty member at a university is challenging. There is no formal training on how to be all at once a researcher, a supervisor, an instructor, a project manager, and of service to the university. To make matters worse, I found that information that would help understand how to be effective in this new role often tends to be scattered and/or hard to come by. When seeking their advice, I commonly find that senior faculty still hold onto outdated regulations that have been discarded years ago (or they may simply do what they see fit, regardless of university regulations). As a result, I find that new academics are dealing with a combination of unclear expectations and lack of reliable guidance on how to succeed with their many new responsibilities. From my understanding, this translates into unnecessarily high levels of stress, feelings of isolation, inefficiency, inadequacy, and/or frustration in new faculty members. When gathering new faculty members together, I found that we each go through similar and complementary challenges: sharing what we each have learned over the past months, we can help each other overcome these challenges. This project will draw us together through the creation of a collaborative information sharing platform (a wiki) where each faculty member can add to the collective knowledge. The goal of this wiki is to be a centralized resource where all the essential information on how to succeed as a faculty member can be organized and easily found.

While the department heads I introduced the project to are onboard, I have learned that organizations are required to go through several hoops, even to create such a simple thing as a wiki. We will be meeting with the head of the office of EDI to gain their insights and approval to go ahead, while IT services may take several months to create a new website. In the meantime, I am collecting and organizing information that I found to be essential for my survival as a new faculty member and will be inputting into the new website. Once the wiki has been created and I have given it structure, the next steps will be to introduce it to other faculty members and invite them to contribute. At the same time, to satisfy the researcher in me, I should conduct a study to document the evolution of new faculty member challenges and stress levels, before and after implementing the resource sharing platform.

## BECCA CHUBB-WAY



*“I joined WISE Planet to further develop my skills as a science communicator and change leader, and to network with other folks working in STEM in my region and across Canada.”*

***I dream of a world transformed by curiosity and connection.***

### BIOGRAPHY

I am a professional science communicator and avid lifelong learner with a passion for alternative education and interpersonal connection. I thrive when exploring new ideas, solving problems, and supporting other people as they grow to understand each other and the world around them. My family and how they raised me are a big part of who I am today, and I have so much gratitude and love for all of them. I have also spent much of my life either being educated or educating others, which has impacted me profoundly. I am a maker, a musician, a conscious consumer, an intersectional feminist and a somewhat responsible plant parent. I enjoy reading, walking, playing board games & video games, drinking tea, singing, practicing mindfulness, looking at the sky and working with kids. Over the past 5 years working at my city’s science centre, I’ve been able to explore many facets of my professional and personal interests. This organization has helped me practice taking risks and learning through challenges and experimentation. Working through the past few years with Covid-19 especially has reinforced how important connected communities and accessible, inclusive and engaging STEM education are to me and to society. I am grateful for the opportunities I have here to build my technical and communication skills while engaging people with science.



## LEAP PROJECT

### Infinity Dome – and Beyond

When is the last time you visited your nearest planetarium, or explored the night sky?

I have the honour and privilege of working at Calgary’s planetarium (the Infinity Dome theatre) at Telus Spark. The wonder and curiosity I’ve seen grow in that space are truly inspiring.

Spark is committed to training itself and others in ever-evolving ways to delight people in the science of everyday life. This commitment is largely achieved through staff, who encourage visitors to ask questions, make mistakes, and be awed by the world around us. Since staff play a key role in visitor experience, I wanted to focus my LEAP project largely on the training and support systems we have for daily operations employees. Specifically, my goal was to improve training inclusivity and accessibility.

Throughout 2022, I focused on developing resources and support for the staff who operate the theatre. This included creating new checklists for start-up and shut-down with pictures for clarity, mentoring team leads and staff alike to promote a “leaderful” team, and delivering pilot training sessions in time for the summer. Data that I gathered before and after those sessions showed an increase in average staff comfort level as a result of my training. I also led a session inside the theatre during our Fall internal conference that was focused on curiosity and inclusion. This opened the Dome up for staff who normally wouldn’t have the chance to work there. For staff who frequented the Dome, it helped challenge their understanding of what is possible. I continue to connect with staff in the space frequently, meeting them at their level of understanding, building on their curiosity, and making sure every staff member I met felt supported and included.

In 2023, my next focus will be on improving training materials for content production. I will redesign the resources available for staff to make use of the planetarium software and continue to turn every new thing I learn into a how-to guide for whoever comes next. I also will make more formal efforts to engage with the various stakeholders in my project – for the goals of this project to be met sustainably, I need the buy-in and input of people at Spark and in our community. Beyond that, I look forward to sharing what I learn to improve training throughout my organization and throughout the industry. To infinity, and beyond!

## SAMANTHA CLARKE



*“I joined WISE Planet to learn from other women who are helping change the ways of the past!”*

***I dream of a world with no biases.***

### BIOGRAPHY

I am a Chemical Engineer in Calgary working as an Emissions Engineer for the largest natural gas producer in Canada! I was born and raised in Newfoundland and moved to Calgary 10 years ago. My small-town upbringing meant that the number of role models in professional careers was limited (I am the only female engineer to ever graduate from my high school), so I paved my own way and I hope that it will create a smoother path for other women in the future. When I was a little girl, I always said I wanted to change the world. Back then I wanted to make it cleaner and prettier. I would pick up garbage as I walked to the local store and tuck it in my pockets to throw out when I got home. I would educate my community on the importance of recycling and get made fun of by my peers for “caring for the planet”... but even with all the nay-sayers around me, I have continued to pour my heart into my passion every day! Some days I still get made fun of for correcting people on their improper waste disposal in the office, or for using the paper straw that I know is going to dissolve in my drink, BUT I truly believe that if we can have an impact on just one person then that creates a ripple effect, and isn't that really how we change the world?

## LEAP PROJECT

### Gender Disparity in Outside Sales Roles at Spartan Controls Ltd.

The Spartan Controls LEAP project for Cohort 2 was a continuation of the work started by Cohort 1 – investigating the reasons behind the disparity between men and women in the outside sales roles. Interviews with the women currently holding these roles were completed, as well as an anonymous survey to all women at the company. After gathering this information, we are formalizing a strategy to attract and retain more women to outside sales roles. Approaches may include job shadowing, formal training and developing support networks to address concerns.

Acknowledging and addressing this disparity can help with retention and recruitment of women to outside sales roles and bring new skills and perspectives to addressing the challenges currently faced by outside sales roles.

## TIFFANY DANG



*“I joined WISE Planet because I wanted to give back to the community which has empowered and supported me to become the leader I am today.”*

***I dream of a generation of STEM leaders who come from all walks of life.***

### BIOGRAPHY

Tiffany Dang (she/her) is a PhD student in the Department of Biomedical Engineering at the University of Calgary. She completed her undergraduate degree in chemical engineering with a specialization in biomedical engineering at the University of Calgary. She is the recipient of the Rona Hatt Chemical Engineering Leadership Award, the TENET Medical Engineering Scholarship, the Alberta Graduate Excellence Scholarship, and the Canadian Graduate Scholarship – Doctoral (CGSD). Her research focuses on understanding the interactions between biological variables and hydrodynamic forces in stem cell bioreactor culture. In doing so, she aims to develop tools that can be used for the large scale biomanufacturing of stem cells for applications such as diabetes. Outside of her research, she is an active member of the biomedical engineering community. She was one of the student co-chairs of the Annual Alberta Biomedical Engineering Conference and an executive member of the Biomedical Engineering Graduate Students’ Association. Additionally, she was one of the Student Directors for the University of Calgary StemCellTalks chapter which is a program that connects high schools students with stem cell researchers across Canada. Currently she is working with her department to create an EDI+ committee focused on actions related to teaching, research, and culture. Outside of the lab, she enjoys rock climbing, board games, and reading from a wide range of genres.

## LEAP PROJECT

### Development of an Equity, Diversity, and Inclusivity Plus (EDI+) Committee for the Biomedical Engineering Department at the University of Calgary



Figure 1 Picture of the Department of Biomedical Engineering at the Annual Alberta Biomedical Engineering Conference in 2022.

At the University of Calgary, biomedical engineering (BME) spans across the Faculties of Engineering, Medicine, Kinesiology, Veterinary Medicine, Science, and Nursing. It includes over 100 faculty members in the programs, 300 faculty involved in research aligned with the “Engineering Solutions for Health Research” strategic theme, over 100 graduate students, and over 300 undergraduate students. Most excitingly, in 2022 the Department of BME was officially and publicly launched.

As the department has both education and research activities that span multiple faculties, it is critical to develop an inclusive community that is representative of the diverse community of staff, faculty, and students. Presently, department initiatives which promote equity, diversity, and inclusivity are underway. However, a formalized committee will help to foster and support initiatives that continue to build on these principles.

Therefore, my Leadership Equity Action Project was to develop an Equity, Diversity, and Inclusivity Plus (EDI+) Committee for the department. The main goals of my project were to:

1. bring various groups within the department together to discuss specific EDI issues and challenges relevant to the department;
2. set the framework of what a department EDI+ committee would like; and
3. have the committee identify one challenge and develop an action plan to resolve it.

After one year, we have established the structure of the committee which includes representation from the BME staff, undergraduate students (from all three years), graduate students, and faculty. We have also ratified the Terms of Reference with the department which outlines the structure and goals of the committee. Further, we are currently working on developing a department wide survey to best identify the challenges experienced by the BME community. After this first year, the goal will be to adjust the committee structure to best adopt EDI practices in how meetings are hosted and projects are decided. Further to build on the current projects of the committee and initiate projects at each level of the department. Ultimately, the goal of the committee will be to advise policies that foster EDI principles in all aspects of the department culture and operation.

## MARYAM ELAHI



*“I joined the WISE planet program for its unique leadership training and the great networking opportunities it provides for early career academics and professionals in science and engineering.”*

***I dream of a compassionate world where we uplift each other.***

### BIOGRAPHY

Maryam Elahi is an assistant professor in Computing at Mount Royal University. She is an Iranian-Canadian immigrant and settler in Canada. She is a mom, wife, and member of a close-knit but geographically dispersed family. Maryam received her Ph.D. in Computer Science from the University of Calgary, and her Masters in Software Engineering of Distributed Systems from the Swedish Royal Institute of Technology. Her research interests are in the design and performance analysis of networked and distributed systems. She enjoys working with students in the classroom and on research projects. She is also passionate about working towards positive change in the status of women and equity-deserving groups in her academic institution and the broader community.

## LEAP PROJECT

### LEAP Project: Early-Career Support for Faculty in Science and Technology

This project explores opportunities for extending the support for early career faculty at the Faculty of Science and Technology at Mount Royal University to address the retention problem for women and other equity-deserving groups in Science, Technology, Engineering, and Mathematics (STEM). Increasing diversity in STEM is known to be a critical factor in the success and excellence of higher education institutions. STEM fields and in particular computer science and engineering, have been suffering from what is known as a leaky gender equity pipeline. The leaky pipeline highlights the problem of retention of women (and also many other equity-deserving groups). In these specialized areas, diverse recruitment at the entry-level is already a challenge, and the representation is further reduced along the way to top positions in academia and industry. Retention of women and other equity-deserving groups in academic careers is instrumental in addressing the leaky pipeline. Diverse faculty contribute to the excellence of teaching and scholarship at their institutions. Furthermore, they represent role models that, in turn, promote the recruitment and retention of students from diverse backgrounds.

Several studies in recent years have shown that retention of early career faculty requires addressing the challenges particular to these early years in academia, which could be compounded by systematic barriers and demands of families with dependants. Studies have found that women and BIPOC faculty face unconscious and conscious biases affecting their student perception of teaching, peer evaluations, and appointment to service that puts unfair demands on their time and energy and affect their physical and mental health. The disproportionate pressure is sometimes impossible to accommodate due to family commitments or results in burnout that manifests itself in a higher rate of attrition and affects the advancement to leadership positions.

The positive effect of support and career development programs on the retention of women in health and STEM academia is shown through recent studies. Peer support networks, extensive mentorship, and institutional support for addressing barriers, including family-friendly policies and career flexibility, have been found as key elements in the successful retention and advancement of early-career faculty from equity-deserving groups. Successful programs are shown to include retention efforts that start shortly after hire and are delivered within the first few years after the hire and sustained for long periods (more than five years).

In this Leadership Equity Action Project (LEAP), I explored the opportunities to expand the support and retention efforts at the Faculty of Science and Technology and Academic Development Center at Mount Royal University. Based on the data gathered on successful programs in other institutions, and the solicitation of perceived gaps from current faculty and academic leaders, a support program is proposed that combines mentorship, peer networks, and staged dissemination of support information.

## KATHLEEN FRITZSONS



*“I joined WISE Planet to learn the tools and skills to improve interactions for my team.”*

*I dream of open and brave spaces.*

### BIOGRAPHY

I am a civil engineer with a structural minor and mother of two boys. Over the last 14 years, I have worked as a design engineer, field engineer, and team lead in utilities, oil and gas, and commercial environments. In my free time, I enjoy traveling, hiking, snowshoeing, classical music concerts and playing the piano. I am originally from Brazil and am teaching my two boys Portuguese.



## LEAP PROJECT

### Building Psychological Safety within Field and Office Teams

For my WISE LEAP program, I chose to work on how to improve the relationship between the field and office teams. My focus is on psychological safety to improve communication and allow everyone to bring their full self to work. I began by researching psychological safety and how to improve communication within teams. The next step was to meet with stakeholders to discuss existing challenges and brainstorm ideas for improvements. It was greatly encouraging to see how passionate team members were on this topic and how eager they were to assist with it.

Based on these discussions, the program shaped into creating a learning team to pilot the concept on an ENMAX Network project. The learning team will meet at key milestones, define success for each stage of the project, check-in together and make modifications as required. The check in points will provide opportunities for greater engagement and ensure improvements to the implementation are captured while it is still early in the project design. Ice breakers and team building activities will be included at the start of each meeting to increase the team's cohesion and psychological safety. The project's success with the learning team will be measured by the number of revisions required after IFC, the number and type of improvements made to the design based on input from the team, and number of site visits conducted. The metrics will be compared to a similar project without a learning team.

The next step is to kick off the learning team pilot. I engaged the project engineering leads to find a suitable project. Based on the timing of my maternity leave until March 2023 and the timing of current projects, my plan is to kick off a learning team once I return to the office. After completing the pilot, the goal is to identify successes and misses for this process. The lessons learned can then be applied to other projects and developed into the formal PMO procedures for project execution.

I completed the majority of this year's WISE program while on maternity leave. The ability to work remotely with Teams meetings, e-mails and online seminars made this possible. There were some unique challenges (such as the baby crying through most of some meetings), but everyone was so accommodating. The WISE Planet seminars on personal leadership and systems and cultures were very helpful and provided me with new tools to try within my own team at ENMAX. I am so thankful for the opportunity to have been a part of this program and hope to keep applying the lessons learned.

## MAHERA JAWAID



*“I joined WISE Planet to network with like-minded women and gain new perspectives from experts.”*

*I dream of peace for everyone.*

### BIOGRAPHY

I am an Engineer with a passion for technology. I am an advocate for equity and inclusion in the workplace. I was brought up with strong values and emphasis on education and I always believe that there is no reason why women should not have all the opportunities in life as men.

I received my Bachelor’s and Master’s degrees in Electrical Engineering from University of Toronto, with a focus on Electronic Circuit Design. I currently work as an Analog Circuit Design Engineer at Synopsys Inc. My job involves working on cutting edge technology, building chips & systems that shape the way the world communicates.

In my free time I enjoy spending time in nature, playing tennis in summer and skiing in winter. I am also a new mom to be.

## LEAP PROJECT

### Professional Development and Networking Program for Junior Engineers

New hires joining any company in a high-tech industry - such as semi-conductors - often have very little exposure to the work done across teams. There is a lack of structured pathway for interns to gain knowledge and understanding of what their potential roles can possibly be in the future. This can impact how they design their final year or pursue graduate studies. The lack of exposure to other teams and networking can leave Junior Engineers isolated and often demotivated, especially in a pandemic / post-pandemic / new-work environment.

As part of my LEAP project initiative, I chose to work on a professional development program designed with Interns and Junior Engineers in mind, who have limited experience working in the semi-conductor's industry. The program addresses the challenges of attracting talent to Synopsys, retaining existing new hires, creating an inclusive work culture as well as offering a platform for networking.

With the goal of increasing the sense of belonging and inclusivity of existing employees of the company, my first step was to qualify the essential traits associated with the concept of "sense of belonging". Next, I quantified how included our young professionals felt within their teams and within the company. This data, along-with other key information from the feedback received from Junior Engineers was shared with Senior Leadership. The data shows that Synopsys is already on track to create a more inclusive work environment and new hires feel that there is a collaborative and friendly environment. However, the data also showed that there is a need for more cross-team interaction and a chance to learn from engineers in different roles, which is an opportunity for improvement. My next step is to work with senior leadership and Synopsys's Inclusivity & Diversity committee to create focused programs that address this need within our teams.

My LEAP project initiative allowed me to personally deep dive into important company culture traits that affect the dynamics of any team. It also allowed me to get a focused conversation started with senior leaders and shed light on specific needs of employees, especially Interns and Junior Engineers. This project and the entire WISE Planet program gave me a new perspective and a chance to grow my leadership skills.

## JING LIU



*“I joined WISE Planet as I was eager to address the historic under-representation of women in engineering.”*

***I dream of gender equity in STEM cultures in higher education.***

### BIOGRAPHY

Dr. Liu holds a PhD in Materials Engineering from the University of British Columbia, where she conducted research on High-Temperature Electrochemistry. During her studies, she was co-inventor of a sensor for in situ measurements with applications in mining, and after graduation she worked as a Metallurgist at Kemetco Research Inc, focusing on the commercialization of this sensor. Dr. Liu joined the Department of Chemical and Materials Engineering in September 2019 as an Assistant Professor. Dr. Liu applies her expertise in electrochemistry and corrosion to address energy-related challenges. One goal of her research is to apply her expertise in Materials Engineering to accelerate the net-zero-CO<sub>2</sub> emission transition with advanced in situ extraction technologies. For example, in the area of Carbon Capture, Utilization, and Storage, she leads research projects addressing the design of materials for the transportation and handling of CO<sub>2</sub>. Safe transport and handling of CO<sub>2</sub> is a critical issue for atmospheric CO<sub>2</sub> reduction. Her research skills are in demand from industry, and she has numerous active industrial partnerships. This allows the results of her research to be translated to the field. In 2021, she was awarded the ‘Petro Canada Emerging Innovator Award’ in recognition of her excellent work. Dr. Liu has also undertaken several leadership roles within the community. She is serving on the organizational committee for the Canadian Materials Science Conference (a national conference that provides exceptional career development opportunities for graduate students) and will chair this meeting next year. She also has an interest in addressing the historic under-representation of women in engineering, and for the past year has been participating in the WISE Planet change leadership training program from the University of Calgary.

### LINKEDIN

<https://www.linkedin.com/in/jing-liu-207b2085/>

### RESEARCH GROUP SITE

<https://sites.google.com/ualberta.ca/ceaes-center/home>

## LEAP PROJECT

### Gender and Racial Equity in Recruitment

While it is important to create a more equitable world, one issue that is of ever-increasing importance that is not talked about enough is the role of racial equity in the gender conversation. Workplaces of the future must be incentivized to embrace a more holistic understanding of work and family and value the full range of experiences that women and all workers bring to the table. This means centering the experiences of women to gain a deeper understanding of the harshest challenges and obstacles facing many women of color, low-income women, transgender women, women with disabilities, and immigrant women. The ability of women across race and ethnicity, income level, disability status, and gender identity to succeed at work in the future will depend on the scope and depth of efforts to remove longstanding barriers and expand opportunities.

Future workplaces must focus on ways to disrupt power imbalances that perpetuate disparities and discrimination. Minimizing how power can be misused within a workplace and diversifying who holds the power to drive decision-making are important steps toward establishing a greater sense of fairness and collective engagement. Through this LEAP project, we will develop and utilize an assessment tool to establish strong equity baselines and benchmarks. Such an assessment tool should utilize different types of measures—from hiring and promotion rates, to demographic differences in workplace morale, to overall numbers of women and people of color in leadership—and explore the different factors that determine success in individual workplaces.

In the long term, this project not only should encompass the full range of interventions to improve legal protections, enforcement tools, workplace policies and structures, and worker supports, but also should prioritize several key measures to help drive transformational change and promote equity in the workplace.

## SEPIDEH MAAREF



*“I joined WISE Planet to enhance my leadership skills as an early career woman in the engineering field.”*

***I dream of entrepreneurship.***

### BIOGRAPHY

I am a Postdoctoral Associate of Petroleum Engineering at the University of Calgary. I received my Ph.D. in Petroleum Engineering at the University of Calgary in 2020 and my M.Sc. in Petroleum Engineering at the Sharif University of Technology in 2015. My expertise lies in the area of enhanced oil recovery, tomographic imaging, fluid flow in porous media, and colloids and interface sciences with a focus on nanoparticle synthesis and characterization for oil field applications.

## LEAP PROJECT

### Sustainable Change in the Oil and Gas Recovery Processes Using Nanotechnology

Sustainability has become the laser focus of many energy and utilities companies, to the point that it is driving the oil and gas industry toward a major transformation. In fact, many traditional oil and gas companies are evolving to the point where they now consider themselves energy companies, mobility companies, or even retail companies, as they diversify and expand into new areas with innovative business models. The current transformation in the oil and gas industry toward sustainability has been a great motivation in this research to address growing issues that are permanently impacting the oil and gas recovery process.

Unconventional oil and gas reservoirs are emerging as a reliable source of energy in North America. However, the current available technologies to exploit these reservoirs are faced with some issues including high energy consumption, CO<sub>2</sub> emission, fresh water source requirements, and wastewater treatment. The aim of this project is to modify the current available technologies or develop new technologies to overcome the environmental and economic issues faced with the current unconventional oil and gas recovery process using Nanotechnology.

My research deals with the application of nanoparticles in different formats including nanofluids, nanofoams, and nano emulsions for sustainable production of oil and gas resources. Nanoparticles offer an attractive green alternative to the conventional chemicals for enhanced oil recovery. Nanoparticles are cost effective and environmentally friendly compared to the chemicals and are proven to have a significant improvement in oil recovery compared to the conventional enhanced oil recovery techniques. Furthermore, they can be synthesized and engineered according to the different reservoir specifications and their properties can be adjusted depending on needs. This flexibility and high potential make them a proper candidate and replacement for the traditional highly toxic chemicals. By using different nanofluids, there will be higher oil and gas production in a longer period with lower environmental effects, therefore the production would be more sustainable compared to the conventional recovery techniques.

## VERONICA MADONNA



*“I joined WISE Planet to gain skills in becoming a change leader towards equity and social justice - not only for us today, but for future generations.”*

***I dream of a future where all are given equal opportunity.***

### BIOGRAPHY

Veronica Madonna is a Canadian architect, educator and researcher focusing on regenerative and low-carbon building practices. She is an Assistant Professor at the RAIC Centre for Architecture at Athabasca University and the founder of Studio VMA, a design practice dedicated to forming a symbiotic relationship between buildings, land, and communities. With nearly 20 years of professional experience, her work has received national and international recognition for design excellence and sustainability. In 2020, Veronica was awarded a Fellow of the Royal Architectural Institute of Canada for her outstanding contributions to the architectural profession.

Veronica’s work and research are at the forefront of critical debate on architecture. She has lectured nationally and internationally on mass timber advancements, regenerative design practices, and affordable housing in Canada. She recently contributed to the Canadian Wood Council publication, the Canadian Guide to Mid-Rise Wood Construction. Her current research initiatives involve holistic methodologies toward reducing operation and embodied carbon across Canada. She is a member of the Ontario Association Sustainable Built Environment Committee and the Canadian Green Building Councils Workforce 2030 Tall Timber Working Group.

As a female leader in the architectural industry, Veronica is an advocate for equity, social justice and taking actions to break systemic barriers. She lectures and researches equitable and inclusive methods in architectural education and professional practice and volunteers her time to mentor professionals through the profession.



## LEAP PROJECT

### Supporting Equity in Architecture (SEA) Through the Regenerative Design Process

The climate emergency may be the most critical issue of our time as it threatens the existence of essential living systems, increasing economic disparity, and fostering further social divide. As we seek strategies to reduce carbon, water consumption, and waste, the building industry is seeking new strategies toward a holistic consideration of environmental stewardship and regenerative design. The regenerative design is a whole systems approach, pursuing a symbiotic relationship between people and the earth. As we look towards a new paradigm of design strategies, considerations towards new technologies and digital strategies to advance regenerative design practices are inherently accelerating in the building industry.

The built environment works simultaneously in a cultural, social, economic, and environmental context. Issues of equity, diversity and inclusivity are linked to the well-being of communities. As architecture works to shape communities through the built environment, architects and architectural education have a vital role in developing holistic environments to promote the health and well-being of its inhabitants.

Like many related STEM fields, architecture faces inequitable practices towards marginalized groups, including women. Lack of equal pay, opportunity for leadership positions and biases of women's role in the construction industry are among the top issues facing equity in practice today. As the industry seeks new approaches toward equity, diversity, and inclusivity, we must carefully consider the role of emerging technologies and digital advancements. If not strategically addressed, the rapidly developing advances of digital and building technology may negatively impact marginalized groups, including women, in the industry. As we find ourselves at the tip of the iceberg towards building innovation, we must be prepared to execute building projects in a regenerative design framework, focusing on delivering net positive results on our environmental, economic, social, and cultural systems. Therefore, we must provide essential advocacy, training, and mentoring strategies to support women becoming change leaders in the building industry through regenerative design.

The Supporting Equity in Architecture (SEA) Through the Regenerative Design Process project will establish a network for building skills, providing tools, open resources, and establishing a global mentoring network where women can advance skills and make connections. Over the next three to five years, it is intended that the project will establish a global alliance for women practitioners and students in the Architectural, Engineering and Construction industries, seeking to refine skills and form mentorship relationships focusing on a regenerative design framework. The project will develop training and skills-building programs, develop resource data management, and create a virtual mentoring, retention and recruitment network that will expand nationally and globally over time.

## ANNA MANKO



*“I joined WISE Planet to contribute to the reduction of common biases about women’s ethnicity/ background and potential career advancement, and women’s job obligations and work-life balance compared to men.”*

***I dream of being able to make a difference in somebody’s life.***

### BIOGRAPHY

I am a Research Coordinator of the Canadian Hepatitis B Network working with Dr. Carla Coffin. After obtaining a PhD degree and having an established academic position, I decided to have an international scientific experience and went to Canada. It was not only a decision to change country, but it was the start of a completely new life: new people, new career achievements, another language, different way of thinking, etc. I prepared myself to step out of my comfort zone to reach my goals, to not be afraid of changes and to think positive. I am sure that obtaining new leadership and professionally oriented skills from the WISE Planet program will give me more and better opportunities for performance at the workplace. Thank YOU!

## LEAP PROJECT

### Ethical and Gender Biases in Work Life/Family Balance

Unfortunately, even nowadays, there are a lot of common biases about the job duty assignments at a workplace as well as estimation of the person, especially females, based on her ethnical background. Some of those biases have been formed based on our own preliminary estimation of the personality, level of the education, mental flexibility, environment where we were grown; others are from mass media, publications, etc.

My point of view is that it is extremely important to achieve equity within a diverse group to improve their access to career advancement opportunities. I understand that it is not an easy task as many different levels in each organisation should be involved, a lot of human recourses needs to be guided appropriately, etc. (from the administrative assistant up to the CEO).

I believe that for an integrative modern society it is important to have equal opportunities for men and women in term of their career endeavours. Men should also have an obligation to take paternal leave in order to know how to care for kids from birth. Gender and cultural stereotypes should disappear; society should be considered as a group of PRODUCTIVE PARTNERS (if we are talking about work environment as well as family).

I will use different sources to achieve my project's goals, such as company newsletters, workshops, policy change. I also definitely would encourage art on the walls, in the companies' newsletters, etc. Visualization makes it much easier to understand and accept an idea. Information needs to be explained and clarified in a proper and polite manner. We do not want to cross somebody's personal boundaries in terms of their world/life. We want them to be flexible and to accept those changes in the workplace, not in their families or their personal lives.

The first step on which I did deep research so far is to conduct a probational survey at the pilot project stage. It will make me aware of other people's priorities, goals, points of view. I have prepared already several surveys to distribute and to analyze data afterwards.

In conclusion, strong women voices need to be heard by politicians and government members. A good idea is to organize an online or in person event and invite women or under-represented individuals, who have felt the effect of biases, to be speakers.

**THEY NEED TO BE HEARD!**

**FURTHER ACTION NEEDS TO BE DONE! POSITIVE TRANSFORMATION IN SOCIETY AND WORKPLACE WILL HAPPEN THEN.**

## JANICE MILLER-YOUNG



*“I joined WISE Planet because connecting and working with like-minded women is enjoyable and energizing.”*

*I dream of inclusive spaces and learning opportunities for all.*

### BIOGRAPHY

I am a mechanical engineering professor and an advocate for diversity and inclusion in engineering education and beyond. My research is education focused and I think of teaching and learning as a design problem. My research goals can be described most broadly as aiming to answer the question “how can we cultivate an environment that helps all students flourish?” I am also a wife and mother of three wonderful teenagers, one who is neurodiverse, and two who identify as non-binary; I have learned so much from them, and I know I have much more to learn.

### LINKEDIN

<https://www.linkedin.com/in/janice-miller-young/>

## LEAP PROJECT

### Intersectional Identities, Self-Efficacy, and Belonging: the experiences of underrepresented groups in engineering education

Design education is increasingly prominent in engineering education. As an integrative component that crosses all disciplines and years, design education requires students to work together in diverse teams to solve increasingly complex problems. As a result, there is a substantial amount of research on how effective teams can be coached and assessed. However, studies that investigate the experiences of female students and women of colour have found that engineering culture in general, and team experiences specifically, can have negative impacts on their engineering identity, self-efficacy, and sense of belonging. There is little research on other minority groups and design team experiences, and the existing research is almost exclusively American.

My LEAP project is a research study in which we aim to capture a series of rich narratives in the voices of participants to enrich our understanding of the experiences of students from multiple underrepresented groups at the University of Alberta and to suggest evidence-based approaches to inclusive, team-based teaching strategies. The research questions are:

- How do students who self-identify as being from multiple underrepresented groups (female, black, Indigenous, students of colour, differently abled, LGBTQ2S+) describe their engineering experience, design team experiences, and feelings of belongingness?
- How do their perceived experiences influence their engineering identity, self-efficacy, and institutional integration?

Interviews are ongoing in the winter 2023 semester. In giving us a clearer understanding of minority students' experiences, this project will culminate in the development of resources for the first-year engineering design course and will lay essential groundwork for other initiatives to support diverse students' success in engineering.

# NISHA MOHAN



*“I joined WISE Planet because I wanted to better equip myself with the various tools and skills needed to pursue my LEAP project.”*

***I dream of a better world for all.***

## BIOGRAPHY

Born and brought up in different places around the world. No identity or belonging recognized so far. My friends are all from different cultures and I expect to see diverse people every day, as that’s where I learn a lot and enjoy myself. To me, diversity was/is the natural state.

My educational background includes a PhD in Aerospace Engineering, and I have held different research and industrial positions in my career journey so far.

## LEAP PROJECT

### Ensuring Equality Within a Hybrid Workforce

The emerging trend of hybrid workforce in the post-pandemic era is creating new divisions of workforce like remote/hybrid/in-office employees and vaccinated/strictly against vaccination employees. There are various levels of information and transparency issues that may arise out of such a situation, where one sect can feel like second class citizens compared to the other and this has been discussed in detail in Harvard Business Reviews. Finding ways to equalize the playing field for all is imperative to allow for smooth, creative operation of our creative group.

By understanding the EDI issues that exist across the industry through the networks I have gained through this WISE Planet program, it has benefited my career by developing this leadership skill. Also, today's workforce seem to show preference for equity over diversity, majorly due to the recent differentiation of the two terms.  
<https://www.youtube.com/watch?v=deYUUFako8Y>.

The deeper desk research I did during the program, the harder and more diverse were the understandings of the various terms around EDI. Making a diversified model of the future trend of how and what these terms become was found to be a hard problem. How human narration of equity has changed over the years and what is it in the foreseeable future are all questions that my current research could not completely cover, although the general resonating thoughts were captured and my LEAP project kept gaining clarity based on these findings.

The main focus of my LEAP proposal was to understand and facilitate bringing in equality in the realms of remote vs. in office workers in corporate environment. There were a few concerns such as the networking barriers and overcoming the impressions around the way office vs. remote work is perceived, which all had diversified opinions, but not a lot of facts to rely on. This project aimed to help retain the innovative practices around how the workplace changed during the pandemic.

There were findings that pointed to societal and official structures carrying biases around the work efficiency impressions remote and in office workers. While most of the research was showing qualitative markers, I focused on getting limited quantifiable, fact-based research in areas of breaking/decoding the stereotypical impressions vs. The reality of work output productivity of home and office workers.

Along with the tools and design thinking techniques provided through the series of the workshops conducted in the WISE Planet program (Regenerative and Sustainable Design, Design for Disruptions and Systems and Cultures), I was able to sharpen my skillsets involving memo drafting for funders and partners and third-party advocates, stakeholder analysis, etc. All of such tools helped me to understand 'how to plana project like LEAP'.

While there are lingering questions about the hybrid work era and since the world is still new to it, I am hoping to gain more clarity in the future with continuing research and toolset development to further my LEAP project. I hope to also tap into the network built during this process and happy to assist the other LEAP projects as well.

## THUNTIDA NGAMKHAM



*“I joined WISE Planet to connect with other females from industrial and academic communities with similar interests to exchange our perspectives in a safe space.”*

*I dream of a peaceful and healthy life.*

### BIOGRAPHY

My name is Thuntida Ngamkham. I am an Assistant Professor (teaching stream) at the Department of Mathematics and Statistics, University of Calgary. I am originally from Thailand. In 2013, I came to Canada to pursue my Ph.D. in Statistics at the University of Regina. My goal as an instructor is to leave a lasting positive impression so that the statistical knowledge I have shared with my students will stay with them. I believe that life is a continuous learning process. Therefore, aside from working at the university, I enjoy learning new outdoor activities such as hiking and snowboarding.



## LEAP PROJECT

### EDI Integrated Plans in Class

As a statistics instructor at the University of Calgary, I have learned that students have remarkably diverse backgrounds, which has made being a statistics instructor slightly more challenging. I have since dedicated my time and effort to finding the best approach to instructing my students without losing my character. Although there is no one best and perfect method, I have committed myself to be one of the change-makers supporting the development of Equity, Diversity, and Inclusion. One of the EDI strategies was created through the LEAP Project in the summer of 2022. The strategy aims to increase students' sense of belonging and fulfillment. Moving into the Fall 2022 semester, students could choose how they would like to be evaluated in a way that suits their circumstances best. I applied a new course assessment strategy to the STAT 213 cohort called the "Wise Program Alternative Course Assessment-WPA." Students could either attempt the actual exam and submit the WPA application later when unsatisfied with their self-evaluated performance or directly apply the WPA application without writing the actual exam. The WPA exam allows students to complete it within four days with no time limit, while the actual exam requires 75 minutes in length to complete. However, the recorded final score will be weighted to 75% of the score earned initially from the Wise Exam.

Three-term exams were conducted, and 10-12% of the class applied for the program. On average, 90% achieved a higher score than their original exam grade. From the results, the accomplishment was beyond what was expected. The WISE Program Alternative Assessment genuinely supports most students in meeting their expectations and circumstances. I am fortunate to work with a fantastic teaching team that supports the project. We brainstormed and shared ideas to make this first trial happen. As I move forward with my career, I will continue to apply this program to future cohorts and create modern strategies to foster my students in the way that best suits their academic goals with the hope that they will experience a positive shift in their attitude.

## OLIVIA PETRUS



*“I joined WISE Planet to connect with a network of like-minded women in STEM and to learn from leaders in academia and industry.”*

***I dream of gender equality in STEM.***

### BIOGRAPHY

I am an energy engineer graduate from the University of Calgary, and I also hold a Petroleum Engineering Technology diploma from SAIT. I am currently working as an Environmental EIT at Spartan Controls and am passionate about the environment, the energy industry, and emissions reduction, both on a global and individual scale.

I lead the Green Team at Spartan Controls which develops and implements initiatives to help reach company-wide and individual sustainability goals. Past initiatives include education programs, public park cleanups, eliminating single-use plastics, installing energy-efficient lighting, and energy tracking.

In my spare time I enjoy playing soccer, skiing, hiking, reading, and traveling. My most recent trip was to Austin, Texas for the Austin City Limits Music Festival and my next big trip will be to the United Kingdom this June.

## LEAP PROJECT

### Disparity in Outside Sales Roles at Spartan Controls Ltd.

The Spartan Controls LEAP project for Cohort 2 was a continuation of the work started by Cohort 1 – investigating the reasons behind the disparity between men and women in the outside sales roles. Interviews with the women currently holding these roles were completed, as well as an anonymous survey to all women at the company. After gathering this information, we are formalizing a strategy to attract and retain more women to outside sales roles. Approaches may include job shadowing, formal training, and support networks to address concerns.

Acknowledging and addressing this disparity can help with retention and recruitment of women to outside sales roles and bring new skills and perspectives to addressing the challenges currently faced by outside sales roles.

## MARIANA PINHEIRO BENTO



*“I have been part of an underrepresented group, and am aware of the challenges related to equity, diversity, and inclusion.”*

*I dream of making a difference for my students.*

### BIOGRAPHY

Dr. Mariana Bento is a woman in engineering and mother of two lovely boys. She is an Assistant Professor of Biomedical Engineering and Electrical and Software Engineering, a full member of the Hotchkiss Brain Institute, funded by NSERC, who has expertise in medical image processing and machine learning applied to aging and dementia. Mariana has a B.Sc. in Teleinformatics Engineering from the Federal University of Ceará (2011), an M.Sc. (2013) and PhD (2016), both in Computer Engineering from the University of Campinas (UNICAMP). Before the current position, she served as a postdoctoral fellow at the Radiology and Clinical Neurosciences, University of Calgary. She develops more robust and reliable open tools in neuroimaging and is engaged in open science activities and EDI activities, including conducting workshops.

## LEAP PROJECT

### Assessment of Equity, Diversity, Inclusion and Accessibility Statements within the Research Environment

As a woman in engineering, one of my priorities is to promote equity, diversity and inclusion in my research group, including students with different backgrounds, and to grow an interdisciplinary environment. But this is different from the reality in other research groups. My proposal aims to support researchers in developing effective equity, diversity, inclusion, and accessibility (EDIA) initiatives when submitting research grants at the University of Calgary. The project aims to propose a structured guide to develop EDIA statements and develop metrics to evaluate these statements (assessment tool). I also propose to investigate strategies to increase accountability and to assess further EDIA strategies, such as what worked, what did not work as planned and what should be revised and modified in the future.

## CHANDRA RAJULAPATI



*“I joined WISE Planet to grow as a leader who can bring diversity and create inclusion in STEM fields.”*

***I dream of a cohesive working and sustainable environment.***

### BIOGRAPHY

I am an Assistant Professor at the University of Manitoba. Before joining UofM, I worked as a post-doctoral research fellow with the Global Water Futures (GWF) program at the Centre for Hydrology, University of Saskatchewan. I got my Doctoral degree from the Indian Institute of Science, Bangalore, India. My research is about understanding historical and future changes in hydroclimatic variables (such as precipitation, temperature, etc.) at local and global scales. I work on understanding changes in extreme events such as floods, droughts, and heatwaves, their concurrent occurrences, and associated risk due to such events. To achieve this, I develop statistical models, downscaling schemes, and novel probabilistic tools. I'm also interested in big data analysis, parallel computing, and machine learning techniques. I like photographing nature and flowers, reading books, yoga, and spending time with my family. The most enjoyable pastime is evening walks with my family and competing on steps taken per day. Besides research and personal interests, I strongly advocate EDI in all fields as there are no bounds to imagination, creativity, and excellence. And therefore, no bounds to any person based on race/ethnicity, religion, age, gender, sexual orientation, or disability; everyone should be given an equal opportunity.

## LEAP PROJECT

### Towards Advocating Women+ in Water Research

Creating an inclusive and diverse research environment is important in STEM fields. Therefore, recruitment, retention, and encouragement of young researchers to join STEM fields are crucial. In water research, diversity, in terms of water experts from different backgrounds, equity, in terms of giving equal opportunities for all experts, and inclusivity, in terms of including experts from all backgrounds are lacking. There is no dedicated water expert list at present for those who are interested in mentoring young professionals.

The project aims to foster water research among diverse groups and show mentorship opportunities with inclusivity and equity. The project also aims at creating a webpage for young researchers, mainly women and people from underrepresented groups, to encourage them to build and advance their careers in water research. The three goals of this project are: to (1) create an expert list containing water experts who are willing to mentor, (2) foster communication among water experts and researchers seeking expertise in water research (mentorship program), and (3) create and maintain the webpage of the expert list.

The collaboration with the Women+Water (W+W) from the Global Water Futures Program at the University of Saskatchewan helped in the successful start of the project. Together with the W+W team, a list of experts interested in mentoring diverse groups has been collected (<https://gwf.usask.ca/women-plus-water/index.php>). The list has been collected through the yearly lecture series organized by W+W. These experts share their knowledge, guide young researchers in advancing their careers in water research and identify opportunities for them where applicable. The expert list will be put up on the webpage and available to the public. This webpage also provides personal assistance to young researchers who are interested in building their careers in water research. The first mentorship circle workshop is aimed to take place in the first week of April. The success of the project depends on taking the initiative to the public. The program is widely advertised on the yearly lecture series taking place between Jan-Apr 2023 and through social media posts on Twitter, LinkedIn, and Facebook.

## PALLAVI SEHGAL-SIDHU



*“I joined WISE Planet to gain access to the resources, mentorship, and guidance necessary to become a successful change leader.”*

***I dream of a unified, accepting, and harmonious society.***

### BIOGRAPHY

I am an electrical engineer working in the power sector with over 15 years of utility experience. I was born and raised in India and had moved to Canada as an international student. I completed my master’s degree in Power System Protection from University of Saskatchewan. In my personal life, I try to manage my time and all my responsibilities. I strive to be a good role model for my children, a supportive partner to my husband and a loving daughter to my parents. I try to balance my work and home life, and make sure to take time for myself to relax and enjoy life. My work involves designing engineering applications, developing software solutions, troubleshooting, and performing maintenance on electrical systems and equipment. I am involved in the development of new technologies and systems to improve the efficiency and reliability of the utility's operations and ensure that the utility meets all safety and regulatory requirements.

### LINKEDIN

[https:// www.linkedin.com/in/pssi](https://www.linkedin.com/in/pssi)



## LEAP PROJECT

### Unlocking the Potential of a Diverse Workforce: Strategies to Encourage Diversity in Technical Roles in a Power Utility

Women are under-represented in STEM (science, technology, engineering, and mathematics) fields worldwide, and the gender gap is particularly noticeable in areas such as electricians, technicians, and engineering. Studies have shown that women are less likely to pursue and continue working in STEM careers compared to men. There are several factors that contribute to this under-representation, including gender stereotypes, lack of access to resources, discrimination, and lack of support from peers and employers.

Our organization has various ongoing initiatives implementing Diversity, Inclusion and Belonging (DI&B). The aim of this LEAP project focusing on diversity is to create a culture of inclusion and respect. Establishing a SMART (Specific, Measurable, Achievable, Relevant, and Time-Bound) goal is essential for the success of any strategic plan. The long-term vision of this project aligns with our organization's mission and values. The project objective is to provide resources and support to the potential recruits (women and gender-diverse groups) currently pursuing technologist and engineering programs.

During this project, I got an opportunity to collaborate with the executive team in conjunction with program coordinators at SAIT (Southern Alberta Institute of Technology) and Schulich School of Engineering at UofC (University of Calgary). We intend to offer more learning opportunities and assistance to women and gender-diverse groups registered in various programs:

- SAIT – Power PSE Apprentice Program: 4 year (Working with HR on details)
- UofC – Collaborative Initiatives with the Schulich School of Engineering Career Centre
  - ENMAX Day Tour: Feb 20, 2023
  - Summer Practicum: 4 months (Working with HR on details)
  - Internship Program: 12 – 16 months (Working with HR on details)
  - ENMAX Participation in Industry Practice interview: Tentative May 2023

As a leader for the initiative, I was responsible to schedule and lead the meetings to pitch the initiative to various external and internal stakeholders. Through this experience, I have honed my abilities in problem-solving, communication, and teamwork. Overall, I am very proud of the work we accomplished and the impact it will have on our organization. This project is envisioned to be an ongoing initiative and would potentially help boost diversity at our organization.

My experience of being part of the WISE Planet Program was incredibly rewarding. The program helped me learn about myself, gain a stronger sense of my strengths and development areas as a leader. It provided an opportunity to network with other professionals and build relationships. I gained confidence and a sense of accomplishment by being able to give back and share.

## CANDACE TONER



*“...I joined WISE Planet because I wanted to develop leadership skills that would enable me to participate in positive change.”*

***I dream of seeing students succeed with their studies and beyond into their careers.***

### BIOGRAPHY

I am a geologist, working as the Geoscience Technologist at Mount Royal University in Calgary, AB. I am an alumna of Mount Royal University and am thrilled that I have been able to return to my alma mater to assist in educating others who are curious about the earth and all of its processes. I came late to the world of post-secondary education, starting that journey when I was in my 40s and graduating in 2018. I have two daughters and I chose to delay my own educational journey so that I could focus on raising them. I've never regretted that decision! Fun fact – one of my daughters also attended Mount Royal University, in a different program, at the same time as me. It was a rare experience that deepened our relationship in such a unique way.

I was born and raised in Calgary, AB. When I am not picking up every rock I see I also enjoy hiking, cycling, swimming, fishing, camping, singing and playing guitar, baking, cooking and reading.

## LEAP PROJECT

### Addressing Ageism Related Hiring

As a young mother, I made the choice to postpone pursuing post-secondary education and a career in order to raise my family. It was a choice that I do not regret. But, once my children were grown, I found that my prospects for getting a job without an education were limited so, as a middle-aged woman, I went to university. I was encouraged by people who said that my years of life experience would be desirable to hiring committees. That was not the case at all. Each year when fellow students and I would apply for industry jobs I was regularly overlooked while my younger classmates were successful in their efforts. It became clear to me that my age was likely a factor preventing me from being a competitive candidate. The trend continued after graduation. For two years following the completion of my education, I spent a great deal of time volunteering at the institution where I wanted to work. I believe that the hours I spent volunteering, being seen, proving my work ethic and skill set are what made me successful in securing my position. I was seen as a viable candidate and not as a middle-aged woman.

For my LEAP project I was hoping to look at the trend of ageism in hiring practices. I quickly saw that there would be no quick or easy solution to addressing ageism across all hiring platforms and decided to pivot. I turned inward and looked at my place of employment, a university. I realized that during my time as a student I did not seek help from mentors, advisors or career services because I had the misconception that those services were for younger students. Had I availed myself of those services I feel I would have been able to build a better profile that would have helped me to overcome ageism barriers. This LEAP project became a mechanism for me to take a closer look at the resources available to mature university students. I am now able to assist and encourage mature students as they navigate systems that will help them achieve success while they are in university and beyond as they work to overcome ageism barriers in hiring.

## ERIN TROUT



*“I joined WISE Planet to develop skills as an aspiring leader in a changing world and make new connections.”*

***I dream of changing the world for future generations.***

### BIOGRAPHY

I am a Facilities Engineer at ATCO Energy Solutions, with a degree in Mechanical Engineering from the University of Alberta. Over the past 10 years, I have worked in a variety of professional positions including roles in Operations, Mechanical Design, Business Integration, and Regulatory. I am passionate about forming strong relationships with the people that I work with and thrive when I work in a team environment. As a future leader, I hope to shape the workforce into a better place for future generations. I believe it is possible to have it all – and want to empower others to believe the same, without feeling they are making any sacrifices in their professional or personal lives. I spend my free time travelling, volunteering with animals, and chasing my 2-year-old twins.

## LEAP PROJECT

### Stress and Burnout Management and Prevention Initiative

Over the last few years with the work from home movement and pandemic impacts, a theme of stress, burnout and poor mental health has emerged. Emails, calls, and messages are always at our fingertips, and it can be difficult to disconnect and set boundaries between our professional and personal lives. As well, employees are constantly trying to balance work with family, health, and other non-work domains. Specifically, my team at ATCO, ATCO Energy Solutions, is a young team with incredible growth plans. This has created challenges when it comes to developing policies and the culture surrounding stress, burnout, and mental health.

The goal of this project is to implement a pilot project at ATCO Energy Solutions focusing on stress and burnout management and prevention. This is a year-long pilot project to address existing gaps when it comes to mental health and develop a long-term sustainable maintenance plan. The impacts of this project will make a permanent cultural impact within the organization and shift individual perspectives surrounding mental health. The summarized project plan can be seen below:

1. Survey Development & Release
2. Data Review
3. Project Kick-off: Stress & Burnout Workshop
4. Employee Led Activities and Initiatives
5. Follow-up Survey
6. Review Stage & Go-Forward Plan

First, an anonymous survey will be developed and released to understand employee perceptions on the current culture surrounding mental health. Data will then be reviewed to create areas of focus for the project. In the execution phase, over a 6-month period, several different Mental Health Workshops and employee led initiatives will be introduced, including collaboration with the Canadian Mental Health Association. At the end of this period, a follow-up survey will be completed, and existing policies will be reviewed with suggestions for change. The review stage also includes determining a go-forward sustainable maintenance plan to ensure a permanent focus remains on mental health within the organization.

Upon completion of the ATCO Energy Solutions pilot project, results and successes will be shared with the ATCO-wide Wellness Committee.

Although progress was initially slow due to other project workloads, my greatest achievement has been presenting to and receiving approval on this initiative from the ATCO Energy Solutions Executive Leadership Team. I also learned the importance of engaging with a variety of teams and stakeholders and was able to find additional unexpected internal support for the project. Since approval, the project has been introduced to all employees during a Health and Safety Meeting and survey development is in progress. The execution phase of the project will be carried out from March-September 2023, with project completion by end of 2023.

## PEICHUN AMY TSAI



*“I joined WISE Planet to learn about EDI and leadership skills and make contributions to EDI in natural sciences and engineering fields.”*

***I dream of advancing engineering innovations with a diverse and talented team.***

### BIOGRAPHY

Dr. Peichun Amy Tsai is an Associate Professor and a Canada Research Chair (Tier 2) in Fluids and Interfaces, at the University of Alberta. The current focuses of her research team include micro-and-macro interfacial and fluid problems associated with environmental, energy and technological applications. Dr. Tsai obtained her Ph.D. degree in November 2007 from the Department of Physics, University of Toronto, Canada. Subsequently, Dr. Tsai was a Postdoctoral Researcher working in the Physics of Fluids Group at the University of Twente, in the Netherlands. She then moved to the US, working with Prof. Howard Stone as a Postdoctoral Research Associate, in the group of Complex Fluids in the Department of Mechanical Engineering at Princeton University. Between 2012 and 2014, she joined the University of Twente as an Assistant Professor in the group of Soft Matter, Fluidics, and Interfaces. In 2015, she joined the Department of Mechanical Engineering in the University of Alberta, working on micro/nano-fluidics, complex fluids, and porous media using experiments, theoretical modeling, and numerical simulations.

### RESEARCH SITE

[www.ualberta.ca/~peichun](http://www.ualberta.ca/~peichun)

## LEAP PROJECT

### Leadership Equity Action Plan in Advanced Research

Dr. Tsai's LEAP project is aimed at recruiting diverse highly-qualified personnel (HQP) through research outreach via week-long research activities in laboratories. The objective is to attract an under-representative group of students (e.g., black, indigenous, female, and people with disability) in Natural Science & Engineering and offer them laboratory experiences advanced instruments and devices to perform fluid measurements. The students will have fundamental lectures and basic research activities in designs, instrumentation, analysis, and communication. More importantly, the students will have hands-on experiences of laboratory measurements and have a short presentation to showcase their results. My research team will also have information sessions about graduate study and, more importantly, share the passion, fun, and useful information concerning graduate study and doing research.

## DANIELA VILLASMIL



*“I joined the WISE Planet program to learn and grow to be a leader that can identify barriers arising from equity, diversity and inclusion challenges and that has the right tools to help others address those challenges.”*

***I dream of a world without discrimination.***

### BIOGRAPHY

I am a mother, a wife, an engineer, and a growing leader. I was born in Venezuela where I spent my childhood and teenage years surrounded by the warmth of close and extended family and beautiful memories. I moved to Canada in 2007 to pursue an Electrical Engineering degree at the University of Alberta and have since then developed my professional career in Alberta.

In my professional life, I am a front-line engineering leader at ATCO Electric. Over my ten years of engineering practice, I have worked on planning, engineering and commissioning of projects in both the oil and gas and electric utility industries. My current role as a Supervising Engineer in the ATCO Electric Transmission Engineering department involves leading a team of 15 protection and control engineers on the design and engineering of high-, medium- and low-voltage power system facilities.

In my personal life, I love cooking, baking, crafting and any activity that allows me to spend quality time with my family. I also love travelling the world and what I love the most about travelling, besides creating memories with my loved ones, is the opportunity to learn from other cultures and to develop a better understanding of the world around us.

### LINKEDIN

<https://www.linkedin.com/in/daniela-villasmil-p-eng-m-eng-2a0b815b/>



## LEAP PROJECT

### Talent Retention through DE&I Lens

Talent retention is one of the top challenges businesses are facing today and at ATCO Electric it is not an exception. As worker retention continues to challenge businesses, it's time to lead in the new ways that are valued by the top talent. Research on why employees leave shows the reasons are within leaders' control: culture, feeling of inclusion, growth opportunities and leadership disconnect. When an organization has a clear, well-defined purpose and pathway forward, it is more likely to attract and retain top talent.

This LEAP project will explore what ATCO Electric can do as a company to turn that around and will focus on identifying current gaps and challenges, setting SMART goals and establishing baselines that progress can be measured against.

Initially, the scope will be defined within the Substation Engineering department (~50 people). The first step to initiate the pilot stage of this project will be to identify DE&I challenges that are common across the department disciplines and to create specific and measurable DE&I performance goals for leaders in that area to target those challenges. The next key step will be to measure progress and success on those goals throughout the performance year through consultation with front line employees and engagement surveys.

Once the pilot period is complete and if the results are deemed successful, the long-term vision would be to work with HR and ATCO's DE&I committee to rollout this project company-wide so that DE&I is incorporated as a KPI in leaders' performance goals.

We, as leaders, can achieve higher talent retention rates by creating a diverse and inclusive work environment within our organizations. An environment where people have a sense of belonging and feel valued for who they are and the diversity they bring.

## LISA WILLIS



*“I joined WISE Planet to gain leadership experience and meet other women interested in making a difference.”*

***I dream of a time when educating people about bias and discrimination becomes unnecessary.***

### BIOGRAPHY

I received my B.Sc. in Biochemistry from the University of Victoria and Ph.D. in Molecular and Cellular Biology in the lab of Dr. Chris Whitfield at the University of Guelph. I did my postdoctoral fellowship with Dr. Mark Nitz in the Department of Chemistry at the University of Toronto, where I received the prestigious Banting Postdoctoral Fellowship. In 2019, I started as an Assistant Professor in the Department of Biological Sciences at the University of Alberta, where I am also an Adjunct Professor in the Department of Medical Microbiology and Immunology. I lead the Willis Glycobiology Lab, which investigates how glycans control the immune response in men and women. In 2018 I founded InclusiveSTEM, a literature-based and data-driven framework for improving the participation and lived experiences of people from marginalized groups in STEM.

## LEAP PROJECT

### Women in Leadership Strategy

My LEAP project is to develop a plan to increase the participation of people from marginalized groups, particularly women, in leadership positions within my organization. Women have historically been excluded from leadership roles for a variety of reasons, including being under-represented in pools from which potential leadership is drawn, being chronically over-burdened and thus unable to take on additional responsibilities, not being viewed as potential leaders by their colleagues, experiencing higher rates of criticism and abuse when in leadership roles, feeling disempowered, and so on. The diversity of thought, approach, and compassion that is missing in leadership when women are excluded contributes substantially to a loss of community, poorer utilization of human capital, and a decrease in productivity.

To address the dearth of women in leadership roles, I am performing a literature review on effective strategies for increasing participation of people from marginalized groups in leadership roles and learning about the initiatives that are ongoing in my institution. I am also learning from my fellow WISE Planet participants about the approaches that have been taken in their institutions. I am working towards a comprehensive plan for a leadership program that either adds to or integrates with existing initiatives at the University of Alberta and across the Prairie region.

## FAN XIA



*“I joined WISE Planet to improve the equality in industrial workspace.”*

***I dream of every person being equally recognized in the workspace.***

### BIOGRAPHY

I was born in a family of teachers and engineers; all of the family members are supportive and encouraging. It was almost nature for me to freely do whatever I'm interested in. I feel like living inside a safe bubble; being well protected; until I got my PhD degree in the field of electronics engineering.

My luck continues and I joined a very supportive team in Synopsys, I never feel I'm limited by the fact that I'm a female.

However, through my life, I clearly realize, continuously, the number of females around me is decreasing. Not everyone has the same luck as me to be treated equally and valued equally. In fact, I realize I'm the lucky one, I am sort of an exception.

I'm well treated, but I do observe there are problems in every aspect of EDI. I want to do what I can to improve the workspace starting with small steps and I hope these small kindnesses can grow to a forest where everyone can be well treated and protected.

## LEAP PROJECT

### Eliminate Biases in Performance Review

The LEAP project of Eliminate Biases in Performance Review mainly focusses on elimination of biases while doing performance reviews. The proposed outcomes from my LEAP project include promotion decisions made with less biases, better interaction between employees and managers, and a more equitable working environment. I hope all employees, from junior to management, will enjoy and benefit from equity inside the company. More people will choose to stay as they feel the promising and inclusive working environment here.

Everyone, regardless of gender, color, race, religion, age, even personality, should be recognized equally when it comes to their contributions to work. This is the purpose of this project. However, the fact is all humans are biased, consciously or unconsciously; this is the trigger for my LEAP project.

In the company, we have an annual performance review, including self-review, peer review and manager review. There are “open boxes” and ambiguous rating sections in the review form. They allow for our implicit biases to creep in. Employees may not be able to really highlight their achievements; managers may give out feedback with hidden biases. Preventing biases from skewing performance evaluations can help to make all employees’ contributions equally recognized and create a fairer promotion process. This will ultimately make the overall company a better place to work.

The project target is to give some guidelines when filling in a performance review to promote more equitable evaluations. To help people get a clearer idea of what should be taken into consideration when giving out feedbacks, either to himself/herself or to team members. This project aims to eliminate hidden biases and help people get more unbiased feedback resulting in a more equal promotion chance.

I will start with a survey to bring in the awareness of biases, followed by creating a guideline reviewed by a small group of colleagues, and finally communicate the result at the whole company level.

## WISE PLANET TEAM



### DR. LALEH BEHJAT

Laleh Behjat, PhD, is a professor in the University of Calgary and the NSERC Chair for Women in Science and Engineering (Prairies). She is an advocate for women in science and engineering and is passionate about removing systematic barriers to their advancement. Dr. Behjat received several awards including the 2015 Association of Professional Engineers and Geoscientists of Alberta (APEGA) Women in Engineering Champion Award and the 2017 ASTech Leadership Excellence in Science and Technology Public Awareness Award.



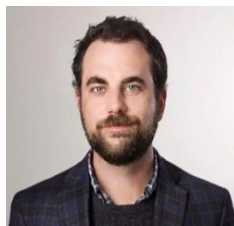
### JENNIFER VAN ZELM

Jennifer van Zelm has a master's in electrical engineering and has worked the last 15 years in strategy, advisory and leadership roles related to tech and innovation. Her experience includes working at a not-for-profit ICT research consortium, contracting for the Schulich School of Engineering to launch its diversity strategies, and being CEO of an e-health start-up. She is currently performing program management, network outreach and content development for WISE Planet.



### STACIA THOMPSON MCCOY

Stacia McCoy earned her PhD in Civil and Environmental Engineering and Engineering and Public Policy from Carnegie Mellon University and her BSE in Civil and Environmental Engineering from Princeton University. Her work experience includes projects on drinking water quality, bioremediation of contaminated river sediments, water reuse classification, life cycle assessment of new technologies, and policy recommendations to address barriers for women engineers. She served as a consultant for the UNESCO Engineering Initiative.



### MATTHEW BARDSLEY

Matthew Bardsley is an award-winning communications professional with a diverse skill set informed by solid academic credentials. With undergraduate degrees in history and communications, and a technical diploma in journalism, Matthew understands the nuances of sharing complex stories and ideas with diverse audiences. Matthew specializes in distilling complex STEM-based content into broadly applicable, engaging stories.



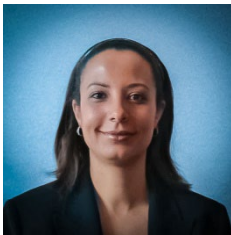
### LORENA SOLIS

Lorena Solis is a PhD candidate at the University of Calgary in the Experimental Psychology (Concentration in I/O Psychology). Her dissertation focus is on the micro-event (e.g., microinequities) that unfold in interpersonal interactions and either reproduce or mitigate macro-level inequality in diverse contexts (e.g., organizations, teams, and dyadic relationships). Her research emphasizes the importance of placing demographic diversity through a sociohistorical context and intersectionality lens.



### ALISON BARRETT

Alison Barrett has a Bachelor of Arts in Psychology from the University of Victoria. As the Manager of Community and Social Impact at the Schulich School of Engineering, Alison is passionate about fostering an inclusive space in engineering for students, staff, and faculty. In particular, Alison enjoys working with current and prospective students to help inspire the next generation of change leaders in engineering.



### ANNE NDEGWA

Anne Ndegwa has a BAsC from University of Waterloo and an MSc from University of Calgary, both in Civil Engineering. She was a Water/Wastewater Process Engineer for nearly 20 years working on municipal, water reuse/reclamation, and industrial projects. The majority of Anne's project work was with municipalities and consulting firms working on full-service water/wastewater projects across Canada.



### JENNIFER BEKKER

Jennifer Bekker is the Associate Director of Development at the Schulich School of Engineering. She enjoys working with the community to find meaningful partnerships that support student success. Jen has a Bachelor of Commerce from the Haskayne School of Business at the University of Calgary and has worked with non-profit and social service agencies in Calgary. Jen has received the city of Calgary's Signature Award for her philanthropic work.



### CRAIG MELTON

Craig Melton is Director of Development for the Schulich School of Engineering at the University of Calgary. In this role he engages alumni, corporations and foundations in order to encourage community partnerships and philanthropic support to enhance research and broaden student learning opportunities. Prior to joining the University of Calgary, Craig enjoyed a career in the Calgary energy industry as a Business Development professional for a local geophysical company. In the community he volunteers his time and talent through roles with Inn from the Cold, YWCA, Alberta Cancer Foundation and as a head coach with community basketball.



### ERIKA LIEU

Erika Lieu is a second-year MSc student of the Industrial/Organizational Psychology program at the University of Calgary, and former management consultant and leader in the engineering sector. Her research interests are rooted in equity, diversity, inclusion, and accessibility. Currently, Erika's research focuses on neurodiverse team functioning, specifically, supportive team leader and team member behaviours that maximize autistic team member performance. On a personal level, Erika's experiences have been at the intersection of race, gender, and disability. Further, her research and work experience include team conflict, multi-team systems, leadership, and strategic planning.







*“Developing leaders has never been more important than it is now, as companies navigate the global energy transition. ATCO is ensuring that all leaders, regardless of gender, are empowered to make change, and to partner with WISE Planet.”*

**Sarah J. Shortreed**, P.Eng.  
EVP & CTO, ATCO Ltd.

*“Promoting careers for women in the natural sciences and engineering is a priority for NSERC. We are committed to creating a more equitable, diverse and inclusive community by increasing the number of women in these fields and supporting programs like the WISE Planet Early Career Fellows that will nurture training and mentorship opportunities for women to become change leaders in STEM.”*

**Alejandro Adem**  
President, Natural Sciences and Engineering Research Council of Canada

Change is ~~hard~~ <sup>COMING</sup>

# PROGRAM SPONSORS



**SCHULICH**  
School of Engineering





