The Association of Professional Engineers and Geoscientists of Alberta

BACKGROUNDER

May 29, 2020

2020 APEGA Summit Award recipients

Centennial Leadership Award – Alison Thompson, P.Eng.

This award is presented to members of APEGA who have attained the highest distinction relating to engineering or geoscience through directorship of an outstanding project, original research or inventions, or an exemplary career in teaching.

Alison Thompson, P.Eng., grew up in Pickering, Ontario, less than two kilometres from one of the world's largest nuclear power stations. In the 1970s, the plant had an interpretative centre where she spent many happy hours. "I'd ride my bike there after school and on the weekends," she remembers. "For the longest time, I thought I'd be a nuclear engineer."

In the end, Ms. Thompson didn't become a nuclear engineer: she earned undergraduate and graduate degrees in chemical engineering from McGill University. In the summers, she worked for conventional energy companies in Alberta. One job in particular—at the Waterton Gas Complex in Pincher Creek—set the tone for the rest of her career.

"After two weeks, my boss went on vacation and gave me the keys. He said, 'OK, you run the sulphur plant now,'" shares Ms. Thompson. It was a rare opportunity to report to the superintendent, understand plant operations, and develop empathy for front-line workers. The experience came in handy after graduation, when she held field engineer roles at a Kansas coal utility and then a Suncor gas plant back in Alberta.

After taking a break to earn a master's degree in business administration at Queen's University in 2001, Ms. Thompson became a technology manager at Suncor. There, she worked on her first geothermal energy project and was exposed to the many legal and regulatory hurdles facing the burgeoning industry. She began speaking to government to cut some of the red tape.

It became clear to Ms. Thompson that the industry needed an advocacy organization, so she co-founded the Canadian Geothermal Energy Association in 2007, which has removed countless industry roadblocks. The next year, she launched her own company—Borealis GeoPower—to steward greater adoption of geothermal energy in the country.

Since then, the industry has grown in leaps and bounds, due in large part to her leadership. Ms. Thompson's business has also thrived, but she doesn't measure success in dollars. One of her current projects is a collaboration with the Kitselas First Nation near Terrace, British Columbia. Called Fuel for Reconciliation, the project will provide the emerging liquefied natural gas supply chain with cleaner fuel options. Another project, called Sustainaville, near Valemount, British Columbia, will also provide cleaner fuel options to a community that has some of the worst air quality in the province.

"These sorts of projects are long and difficult to do, and cost a lot of money," she explains. "I want there to be a big bang for the buck, not just for the company, but for the communities. But above all, we want to use the company as a force for good."

Awards and Distinctions

- Recipient, 2020 Clean50 Top Projects, Clean50 (2020)
- Transformation Advocate Award, BC CleanTech (2020)
- Certified, B Corporation (2017–present)

- Fellow, Energy Futures Lab, The Natural Step Canada (2015–present)
- Belle Mulligan Award for Leadership in Investor Relations, Canadian Investor Relations Institute (2010)

Professional Affiliations and Activities

- Member, APEGBC (2020–present)
- Member, Board of Directors, Alberta Innovates (2016)
- Member, Board of Directors, Youth Science Canada (2014–2017)
- Member, Board of Directors, International Geothermal Association (2013–2016)
- Member, Executive Committee, Geothermal Implementing Agreement, International Energy Agency (2008–2015)
- Chair and Managing Director, Canadian Geothermal Energy Association (2007–present)
- Member, Board of Directors, Petroleum Technology Alliance Canada (2007–2009)
- Member, APEGA (1999–present)

Community Service Award – Michael Halliwell, P.Eng.

This award is presented to APEGA members who are recognized by their peers for outstanding contributions to society.

Two decades ago, environmental engineer Michael Halliwell, P.Eng., signed up for a first-aid course. He'd recently started working for Thurber Engineering at a large upgrader project and was taking on additional responsibilities in health and safety. As part of his expanded role, he needed to renew his first-aid certification.

He'd taken first-aid training before, but this one course, with St. John Ambulance, felt different: "I had an instructor who was an absolute blast." The instructor encouraged Mr. Halliwell to volunteer for the venerable organization, the roots of which reach back to 11th-century Jerusalem.

Intrigued, he became a medical first responder with the organization's volunteer Brigade (now Community Services), providing first-aid coverage at events in and around Edmonton. Since 2001, he has donated nearly 6,250 hours of event coverage, treating everything from bumps and scrapes to bigger medical emergencies. "Quite often, we're the first responders on the scene at these events," explains Mr. Halliwell.

A few years after joining St. John Ambulance, Mr. Halliwell found an additional avenue for his generosity that involved his avid love of cycling: he participated in the Enbridge Ride to Conquer Cancer. A colleague and fellow APEGA member had recently succumbed to colon cancer, and he wanted to pay his respects in a concrete way. "That first experience was very poignant because part of the route overlapped with one of the last car trips our co-worker took—he actually drove part of our course that year," he remembers. "That was a shot in the heartstrings." Since 2009, he's continued to support the fundraiser as a cyclist—raising more than $50,000—and as a volunteer on the medical and rider-safety crews.

Mr. Halliwell's charitable contributions take other forms, too. For years, he's conducted food drives and other community-service projects with his church, and he recently made his 78th whole-blood donation with Canadian Blood Services. He's also a dedicated mentor, counselling professionals in Thurber's in-house mentoring program and at Environmental Careers Organization Canada, and he supports engineering students through APEGA's University Outreach Program. Last year, he joined the board of the Canadian Association of Radon Scientists and Technologists, which educates professionals and raises public awareness about the dangers of radon exposure.

Mr. Halliwell is nonchalant about his charitable endeavours. “I didn’t follow in my mother’s footsteps and become a nurse, but I still use my background to help where I can.”

Awards and Distinctions

- Reader’s Choice Award, *Journal of Protective Coatings and Linings* (2018)
- Alberta Centennial Medal, Legislative Assembly of Alberta (2005)
- Member, The Most Venerable Order of the Hospital of St. John of Jerusalem (The Order of St. John), St. John Ambulance (2004)

Professional Affiliations and Activities

- Member, Board of Directors, Canadian Association of Radon Scientists and Technologists (2019-present)
- Volunteer, APEGA University Outreach Program (2016-present)
- Environmental Professional, Environmental Careers Organization Canada (2008–present)
- Member, Northwest Territories Association of Professional Engineers and Geoscientists (2008–present)
- Certified Environmental Site Assessor – Phase I, Associated Environmental Site Assessors of Canada (2005–present)
- Member, APEGA (1998–present)

Early Accomplishment Award – Bipro Dhar, P.Eng., PhD

This award is presented to APEGA members who are recognized by their peers for their integrity, expertise, and outstanding accomplishments in fields related to engineering or geoscience at an early stage in their professional career.

Growing up in Bangladesh, Bipro Dhar, P.Eng., PhD, had his career path mapped out when he was still a young boy. His father, a civil engineer who had retired from the country’s Roads and Highways Department, shared his experience of the profession with his son, who took great interest in the stories.

“He inspired me to pursue engineering,” states Dr. Dhar. “Back home, we have a lot of environmental issues, and I thought I could one day contribute to solutions through engineering.”

After earning an undergraduate degree in chemical engineering at the Bangladesh University of Engineering and Technology, he came to Canada to further his education. Naturally curious and very determined, Dr. Dhar decided to pursue a career as an academic. “I find research exciting—every time, you work with new challenges,” he explains. “Another exciting part of academia is working with students. We explore and learn together and, sometimes, discover new engineering solutions.”

Dr. Dhar earned his master’s degree in chemical and biochemical engineering from Western University and a PhD in civil engineering from the University of Waterloo. In 2016, he accepted a position with the University of Alberta’s Faculty of Engineering as an assistant professor of environmental engineering.

In the short time since, Dr. Dhar has established himself as a leading expert on bioenergy and value-added resource recovery from waste and wastewater. He and his research team are currently working with multiple industry partners to optimize engineering bioprocesses to transform waste into useful products, such as bioenergy, fertilizer, and industrial chemicals. His team is also developing a biosensor to monitor toxic compounds in water from oil sands tailing ponds in northern Alberta.

Dr. Dhar is a prolific academic, having published more than 40 journal articles, 50 conference papers, and three book chapters, with more than 1,000 citations to date. His research has been considered favourably by major funding agencies in Canada. Since August 2016, he has secured more than $1 million in research funding as a principal investigator.

Even with these impressive career achievements, Dr. Dhar says his greatest pride comes from the accomplishments of his students—those in his courses and the graduate students in his lab. “The success of my students is my success.”

Awards and Distinctions

- Early Career Research Award, Faculty of Engineering, University of Alberta (2018-2019)
- Philip H. Jones Award, Canadian Association on Water Quality (2016)
- Laurence Hamlin Memorial Award, University of Waterloo (2015)
- Postgraduate Scholarship – Doctoral, Natural Sciences and Engineering Research Council of Canada (2013–2016)
- President’s Graduate Scholarship, University of Waterloo (2013–2016)
- Dr. M. Chandrashekar Memorial Award in Sustainable Energy, University of Waterloo (2013-2014)

Professional Affiliations and Activities

- Conference Chair, 11th Western Canadian Symposium on Water Quality Research, Canadian Association on Water Quality (2019)
- Member, APEGA (2019)
- Invited Speaker, 53rd Central Canadian Symposium on Water Quality Research, Canadian Association on Water Quality (2018)
- Program Co-Organizer, Environmental Engineering and Waste Management/Oil Spill Recovery, 67th Canadian Chemical Engineering Conference (2017)
- Visiting Researcher, Toronto Water, City of Toronto (2016)
- Member, International Society for Microbial Electrochemistry and Technology (2015–present)

Excellence in Education Award – Jason Carey, P.Eng.

This award is presented to members of APEGA who have made exemplary contributions to teaching and learning at a recognized post-secondary institution in Alberta.

As a child in the 1980s, Jason Carey, P.Eng., PhD, discovered engineering through Astro Boy—a cartoon about a sentient robot boy with extraordinary abilities. “I saw it and exclaimed, ‘I want to build that!’” he remembers. “My mother explained, ‘That’s what an engineer does.’”

Dr. Carey went on to earn undergraduate and master’s degrees in mechanical engineering at the University of Ottawa and Queen’s University in Kingston, respectively, before returning to Ottawa for his PhD. A career in academia was a natural choice, as it offered research freedom and teaching opportunities.

In 2004, he launched his career as an assistant professor in the University of Alberta’s Department of Mechanical Engineering. From the start, Dr. Carey prioritized meaningful learning. He used multiple strategies to keep students engaged with the material—he was one of the first instructors in the department to use multimedia—and used a *flipped classroom* approach in which he delivered course fundamentals online and used class time for discussion.

Dr. Carey became an educational leader in the faculty, championing a greater focus on the development of communication and critical-thinking skills. He co-created an innovative mechanical engineering class inspired by TV’s *MythBusters* through which students honed their analytical skills by tackling real-world conundrums. He also spearheaded the faculty’s new Engineering Student Success Centre to aid first-year students in the transition from high school to university.

Now the associate dean of the Faculty of Engineering, Dr. Carey’s commitment to education has expanded beyond his students: he has developed leadership seminars and funding programs for faculty members to improve their courses and classroom delivery.

Dr. Carey is a well-rounded academic who finds special meaning in teaching. “I think the biggest impact I can have is preparing the next generation of professional engineers who can go out there and change the world for the better.”

Awards and Distinctions

- Research Excellence Award, Faculty of Engineering, University of Alberta (2014)
- Annual Award for Excellence in Teaching, Mechanical Engineering Club, University of Alberta (2007-2008)

Professional Affiliations and Activities

- Member, APEGA (2004–present)

Outstanding Mentor Award – James Popowich, P.Eng.

This award is presented to members of APEGA in recognition of exceptional achievement as a mentor.

Growing up, James Popowich, P.Eng., was what his fellow Saskatchewanians called a *stubble jumper*—what those outside the province know as a grain farmer. “I grew up on a small farm and learned the value of a work ethic early on,” he says.

As a young man, he had an opportunity to visit a potash mine in a nearby town, and he was fascinated by what he saw. “It was like they were running a combine underground,” he exclaimed. Later, he would learn that mining and farming had more in common than just equipment: “It’s about understanding how things work and productivity—making the most with what you have.”

Mr. Popowich earned undergraduate and master’s degrees in mining engineering at the University of Saskatchewan before beginning his five-decade career in the industry. He retired from Elk Valley Coal as president and CEO in 2006, but he hasn’t stopped contributing to his chosen profession and the industry at large. He’s still active with the Canadian Institute for Mining, Metallurgy and Petroleum and has held various directorships.

Before retiring, he noticed university graduates seemed less prepared for their careers than they could be. “Most graduates would spend the first couple of years in industry learning to use what they’d learned at school.” Thus began his commitment to ensuring students and young professionals were poised to succeed by the time they entered the field. It’s a calling he continues to answer through retirement because, as he explains, “it’s just the right thing to do.”

In the early 2000s, he joined an advisory committee at the University of Alberta’s Faculty of Engineering to offer industry input on curriculum development. In 2012, he worked with Dr. Tim Joseph, P.Eng., to create the Alberta Chamber of Resources Design Studio at the university. In the studio, students solve real-world engineering problems with state-of-the-art technology and industry mentorship—something he refers to as scenario-based learning.

In the past 10 years, Mr. Popowich has mentored about 500 University of Alberta mining students, drawing on decades of experience of mentoring employees. Though he now calls Vernon, British Columbia, home, he travels to Edmonton several times a year to connect with students face to face and hear their project pitches. Working during his retirement, he insists, is worth it. “There’s tremendous reward in seeing people think things through and saying, ‘I got it!’”

Awards and Distinctions

- CIM Distinguished Service Medal, Canadian Institute of Mining, Metallurgy and Petroleum (2010)
- Person of the Year, Alberta Chamber of Resources (2007)
- Alberta Centennial Medal, Legislative Assembly of Alberta (2006)
- Fellow, Canadian Institute of Mining, Metallurgy and Petroleum (1996)

Professional Affiliations and Activities

- Chair, Allan Brooks Nature Centre (2017–present)
- President and Past-President, Canadian Institute of Mining, Metallurgy and Petroleum (2007–2009)
- Director, Climate Change Central (2002–2010)
- Member, Board of Directors, The Coal Association of Canada (1998–2002)
- Member, Mining Industry Advisory Committee, Alberta Chamber of Resources, School of Mining and Petroleum Engineering, University of Alberta (1991–2011)
- Member, APEGA (1983–present)
- Member, Canadian Institute of Mining, Metallurgy and Petroleum (1967–present)

Research Excellence Award – Amit Kumar, P.Eng., PhD

This award is presented to members of APEGA who have conducted innovative research in engineering or geoscience that has been successfully applied to improve economic and social well-being.

As a young man coming of age in India, Amit Kumar, P.Eng., PhD, decided to follow in his father's footsteps and become an engineer. He studied diligently, determined to attend a top engineering program one day.

His efforts paid off when he was accepted to the esteemed Indian Institute of Technology. There, he completed an undergraduate degree in energy engineering before getting a job at a cement manufacturing plant. It was a good opportunity, but one that became monotonous: "I wanted to do something new. I wanted to create or develop something," he explains. "The only way to do that was through postgraduate studies."

This decision led him to earn his master's degree in energy technology at the Asian Institute of Technology in Thailand before heading to the University of Alberta for his PhD in mechanical engineering. He considered a career in industry, but ultimately chose to stay within academia for the research freedom.

In 2005, Dr. Kumar became an assistant professor of mechanical engineering at the U of A. His chief research interest was an emerging concept of energy systems, which hadn't yet been developed in Canada. Essentially, this area of study considers the chain of energy production, conversion, transportation, and utilization, including assessment of economic and environmental impacts. The approach yields information to help government and industry make informed decisions on clean energy technologies.

Over the years, Dr. Kumar has established a large, internationally respected research program at the university. His work centres on the development of data-intensive computer models—based on fundamental science—to evaluate specific energy pathways and make predictions.

Dr. Kumar has championed the field in Alberta and internationally. As a researcher and subject matter expert, he has sat on countless policy-review panels. His research is driven by the desire to make a difference in the world: "I want to help stakeholders and society make better energy choices and make life better for coming generations."

Awards and Distinctions

- Deputy Director, Future Energy Systems, University of Alberta (2017–present)
- Associate Industrial Research Chair, Energy and Environmental Systems Engineering, Natural Sciences and Engineering Research Council/Cenovus/Alberta Innovates (2012–present)
- Cenovus Energy Endowed Chair in Environmental Engineering, Department of Mechanical Engineering, University of Alberta (2012–present)
- Young Engineer of the Year, Canadian Society for Bioengineering (2011)

Professional Affiliations and Activities

- Member, Clean Fuel Standard Technical Working Group, Environment and Climate Change Canada (2019–present)
- Chair and Member of several review panels, Horizon 2020 and Framework Program 7 (FP7), European Commission (2009–present)
- Member, APEGA (2008–present)

Women in Engineering and Geoscience Champion Award – Ania Ulrich, P.Eng., PhD

This award is presented to members of APEGA in recognition of exceptional achievement as a champion of women in engineering and geoscience.

The daughter of a wildlife biologist and a physician, Ania Ulrich, P.Eng., PhD, grew up wanting to make a difference in the world.

At first, she set her sights on medicine—following in the footsteps of her mother and brother—but she didn't enjoy her studies. After meeting an environmental engineer, she decided to give engineering a shot, but had reservations. "I really didn't see a place for compassion or helping people in engineering." When she discovered the fields of bioremediation and environmental health-risk assessment, which offered more direct ways of helping people and communities, she knew she was on the right path.

That path took her to the University of Toronto to earn a PhD in chemical engineering with an environmental focus. After returning to Alberta to be closer to family, Dr. Ulrich began remediation work at Wabamun Lake, where a derailed CN train had spilled oil. She loved working with the community but living in an on-site trailer was tough. "I learnt a lot and grew as a human being, but I realized I wanted more control over my work environment and to teach."

In 2006, Dr. Ulrich joined the University of Alberta's Faculty of Engineering, becoming a full professor and Associate Dean of Outreach in 2017. She's a well-loved instructor, colleague, and mentor who challenges others to deeply consider the role of engineering in society.

She's also a long-time champion for diversity in engineering—a profession that hasn't traditionally reflected societal demographics, particularly gender equality. She has been involved in an extensive list of initiatives and programs designed to foster equality at all levels, from community outreach programs geared at K–12 girls, young women, and Indigenous youth, to mentorship programs for female faculty members. She started a male-allies group within her faculty that enables men to join in the fight for greater diversity, equality, and inclusivity, and she's been involved with improving policies and hiring practices. Her work paid off when, in 2019, the faculty offered positions to an equal number of men and women for the first time.

It's not easy work, but Dr. Ulrich approaches her advocacy work with compassion and empathy: "I've worked in different environments and learned that you have to meet people where they're at—whether or not you agree."

Awards and Distinctions

- Women's Initiative Leadership Award, Women's Initiative Edmonton (2019)
- Alberta Innovates New Faculty Award (2010–2013)
- Faculty of Engineering Undergraduate Teaching Award, University of Alberta (2010)

Professional Affiliations and Activities

- 30 by 30 Champion–Alberta, Engineers Canada (2018–present)
- Member, Equity, Diversity, and Inclusion Steering Committee, University of Alberta (2017–present)

- Mentor and Speaker, FEM Mentorship Club, DiscoverE Girls (2010–present)
- Mentor, Women in Scholarship, Engineering, Science and Technology (WISEST) (2007–present)
- Member, APEGA (2007–present)

Environment and Sustainability Award – The Bioengineering Demonstration and Education Project

This award is presented to members of APEGA who have demonstrated excellence in the application of engineering or geoscientific methods towards preservation of the environment and the practice of sustainable development.

The historic flood that ravaged Calgary in 2013 took five lives and destroyed countless homes and businesses. All told, the natural disaster—one of Canada's costliest—left the city with an estimated $5 billion in damages, with $409 million to infrastructure alone.

After the waters receded, extensive efforts were made to prevent future floods of this magnitude. Conventional mitigation techniques included installing rip-rap—a matrix of rocks—along the bank of the Bow River to protect the shoreline from further erosion. Though practical and necessary at the time, this strategy can harm the riparian zone—the habitat where the land and water meet—that's critical to the health of a river.

That's where the Bioengineering Demonstration and Education Project, completed in 2019, came in. Located in Calgary's Inglewood neighbourhood, the project was a partnership between Alberta Environment and Parks and the City of Calgary to reverse the harm done to fish and aquatic habitats. Its success relied on the effective use of bioengineering—incorporating living vegetation to stabilize the riverbank and control erosion.

"It makes more sense on the habitat side of things, regulatory side of things, and aesthetic side of things—people prefer to see vegetation," informs Mike Gallant, P.Eng., a water resources engineer with Kerr Wood Leidal (KWL) Consulting Engineers, who led the design team. The team used 14 bioengineering techniques, seven of which had never been used in Calgary, including hedge-brush layers and vegetated rip-rap with rooted, live cuttings.

"This was a challenging project on many fronts," reveals Gallant. Some of the issues were logistical. "We could only enter the river to do work in two windows: in the early spring and six weeks in late summer," he explains. It didn't help that the project area included one of the deepest scour holes on the Bow River. Other difficulties included preventing endangered bank swallows from nesting during construction and removing 2,000 tonnes of concrete rubble and waste from the shoreline.

In addition to restoring the riverbank, the project raised the industry standard by demonstrating the successful use of nature-friendly alternatives to conventional mitigation techniques. The project now serves as a learning tool for engineering professionals and the public with the incorporation of site signage, a living laboratory, and a key stop for the RiverWatch program.

"The whole purpose was to stabilize the bank and restore the riparian zone and habitat," states Mr. Gallant. "This was a wonderful opportunity to display bioengineering techniques."

Key members involved in the project's development include:

Mike Gallant, P.Eng.
Andrew Szojka, P.Eng.
Dave Murray, P.Eng.

Awards and Distinctions

- Award of Excellence–Water Resources, CEA Showcase Awards, Consulting Engineers of Alberta (2020)
- Award of Merit–Sustainable Design, CEA Showcase Awards, Consulting Engineers of Alberta, (2020)
- One City Award–Environmental, City of Calgary (2018)

Project Achievement Award – Sylvan Lake Regional Wastewater System

This award is presented to an engineering or geoscience project that contributes new technologies, processes, or innovations for the improvement of society.

In the summer of 2016, the Sylvan Lake community faced a wastewater crisis. A combination of heavy rains and changes to federal regulations meant the lagoon-storage system, which discharges treated wastewater into Sylvan Creek, wasn't meeting environmental standards. In addition to being at capacity, the lagoons were at risk of discharging too much ammonia—which is toxic to fish—into the Red Deer River.

"They had to truck wastewater into Red Deer, which is prohibitively expensive," remembers Stephan Weninger, P.Eng., a principal with Stantec. Such extreme measures worked, but the community needed to act quickly to avoid future calamity. When the province came through with capital funding, the regional utility commission hired Stantec to fix the problem.

The solution that followed—the Sylvan Lake Regional Wastewater System—was the largest horizontal-drilling project for a wastewater system in provincial history. Its wastewater pipeline would run between Sylvan Lake and Red Deer, transporting sewage from the vibrant, lakeside community to a state-of-the-art treatment plant.

The project was fraught with technical challenges: work had to be done within an active highway right-of-way, in challenging soil conditions, and with a unique approach to wastewater-system hydraulics. The tight timelines meant the team couldn't secure land for pipeline alignments, so it had to get creative.

"Everything was accelerated, so we had to fit our new line within the existing highway right-of-way," explains Mr. Weninger. The solution? Directional drilling in the highway ditches. There were other challenges, too, such as needing to auger beneath Highway 2 and encountering a sandstone shelf right around the designed pipe depth. What's more, because the pipeline crossed a portion of Canadian Pacific's railway and a delicate wetland, the team took special precautions to avoid damaging the environment.

The system was designed, constructed, and put into service within two years of initiation, alleviating the town's wastewater concern and improving Red Deer River water quality for downstream users, Mr. Weninger revealed. "It's really a testament to the dedication of the team."

Key members involved in the project's development include:

Amy Begley, P.Eng.
Johnny Ke, P.Eng.
Liang Liu, P.Eng.
Qiguo Wang, P.Eng.
Stephan Weninger, P.Eng.
Aws Al Sammaraie

Frank Spragins Technical Award –Marcelo Epstein, P.Eng., PhD

This award is presented to APEGA members recognized by their peers for their integrity, technical expertise, and outstanding accomplishments in fields relating to engineering or geoscience.

One of the rites of passage in many young people's lives as they transition into adulthood is choosing a vocation. For Marcelo Epstein, P.Eng., PhD, this moment came quickly—he'd skipped grades and graduated high school early. But the timing wasn't what made the choice difficult.

"I had inclinations for both the arts and the sciences," he shares. "So, I did what most children don't do so much these days: I asked my father." At his father's advice, he studied civil engineering at the University of Buenos Aires. He earned his undergraduate degree in 1967 and took a refinery job.

Wishing to expand his horizons, he accepted a scholarship for graduate studies at the Technion – Israel Institute of Technology. There, he earned his master's degree and PhD and accepted a faculty position as a senior lecturer. In September 1973, just days before the outbreak of the Arab-Israeli war, he boarded a plane to Detroit, where he had been offered a one-year visiting position at an industrial architecture company.

Dr. Epstein entered Canadian academia a year later via a University of Alberta postdoctoral fellowship. This fellowship opened the doors to an assistant professor position in mechanical engineering at the University of Calgary, where he has remained.

During his time at the U of C, Dr. Epstein has made important contributions in the fields of continuum mechanics and the biomechanics of soft-tissue growth and remodelling. You might describe his work as highly technical, yet he sees the divisions between disciplines as largely artificial and advocates a university education that enables areas of scholarship to blend—even between the sciences and arts.

"We've over-specialized because of technological advances, so I try to keep some sanity there," smiles Dr. Epstein, who earned a bachelor of arts in classics at the University of Calgary in 1993. For 20 years now, he's taught a humanities course called The Latin of Science, in which students study great philosophical and scientific works in Latin. He has also been a proponent of two interdisciplinary programs in humanistic engineering, a dream that has yet to be implemented.

It's now been several decades since Dr. Epstein took his father's advice, and he has no regrets. His indirect route to academia has been a natural fit for him. "It has to do with my family. We love education and believe, very innocently, that education will redeem the world."

Awards and Distinctions

- Honoree, Special Issue, *Mathematics and Mechanics of Solids* (2017)
- Honoree, 53rd Meeting of the Society for Natural Philosophy (2015)
- Tullio Levi-Civita Award in Differential Geometry and Mechanics, International Research Centre for Mathematics & Mechanics of Complex Systems (2014)
- CANCAM Medal in Theoretical and Applied Mechanics, Canadian Congress of Applied Mechanics (2009)
- University Professorship in Rational Mechanics, University of Calgary (2002)

Professional Affiliations and Activities

- Member, Executive, Canadian National Committee for the International Union of Theoretical and Applied Mechanics (2009–2019, 2005–2007, 2000–2002)
- President, Central Committee, Canadian Congress of Applied Mechanics (2005–2007)
- Fellow, American Academy of Mechanics (2000–present)
- Member, Society for Natural Philosophy (2000–present)
- Member, Executive, International Society for the Interaction of Mechanics and Mathematics (1998–2001)
- Member, APEGA (1978–present)

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