UBC rocket’s motto is a question: “What could go wrong?”

You sit in the capsule while it launches. I noticed how everyone was so calm. We all had specific things to do and we did them. They weren’t paying us to be afraid.

Space tourism is a promising area; we don’t want to wreck the seven wonders of the near-Earth world before the people have a chance to enjoy them and learn from them.

In remote, unforgiving locations, we become more aware of our common humanity.

Lunar dust is very fine, almost like talcum powder. It has a distinctive smell – sort of a combination of gunpowder and ashes. There was a small cloud of dust on both suits, which I got in my nose and my eyes. It was very irritating.

You remember in Star Wars when C-3PO makes a dire prediction about the odds of flying through an asteroid belt? It actually happened to Bill Nye once. Said there’s a lot of asteroids in space, and he’s right.

How many kids can boast that they played with the first human to leave bootprints on the moon? Marco Polo? Neil’s other?
TREK Correction, Spring 2018

The spring 2018 issue of Trek magazine included an image of Dr. Gordon Matheson on page 36, who was incorrectly identified as Dr. Chan Gunn. We apologize to both Dr. Matheson and Dr. Gunn (who is pictured here, left, with UBC’s President Ono). Dr. Gunn is a Vancouver physician known for his innovative work in the field of pain relief. He generously donated $5 million to the Faculty of Medicine to support the construction of the Chan Gunn Pavilion, a facility focusing on physical activity and exercise medicine that opened in March.

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From the Moon to Mars

I was two years old when Neil Armstrong walked on the surface of the Moon. When an estimated half a billion people were watching mankind’s giant leap – a miraculous feat of science, engineering and bravery – I was probably asleep (or bawling).

I’ve grown up in the Space Age, never conscious of a time when humans couldn’t leave Earth (well, a few of them anyway – for a finite time), but my parents and grandparents, let alone the generations before them, probably thought the idea of walking on the Moon an impossibility.

Now we’re talking colonists on Mars and the tantalizing notion of habitable planets beyond our solar system. Much like the Moon 50 or 60 years ago, it all seems far beyond reach.

But human beings are hardwired to explore and usually make it to their destination, or find ones they weren’t expecting. Throughout history, people have taken risks to explore the unknown, and through a combination of ancient wisdom and ingenuity have reached most places on their own planet that can sustain human life – in order to settle, find new land, map, conquer, explore, survive, research, or profit. An intrepid few have even made it to the extremes of Earth that can’t sustain human life – from the floor of the Mariana Trench to the summit of Everest, and from North Pole to South. It seems we’re helplessly taken risks to explore the unknown, and through a combination of ancient wisdom and ingenuity have reached most places on their own planet that can sustain human life – in order to settle, find new land, map, conquer, explore, survive, research, or profit. An intrepid few have even made it to the extremes of Earth that can’t sustain human life – from the floor of the Mariana Trench to the summit of Everest, and from North Pole to South.

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How planets play ping-pong

By Silvia Moreno-Garcia, MA’16

Christa Van Laerhoven, BSc’07, is a UBC astrophysicist and post-doctoral fellow who studies celestial mechanics, which she says is a fancy name for orbital mechanics. After completing a PhD at the University of Arizona she is now back in BC and often involved in public science engagement events around the province. She talks about Neptune, exoplanets, and what science fiction writer got wrong.

Why are you so interested in the Kuiper Belt?

The Kuiper Belt is a ring of small objects extending hundreds of astronomical units (AU). Everyone gets it used to be at a different distance from the Sun, closer to it than it is today. So when Neptune pulls objects in, it tends to lose them, and when it throws stuff out they come back. As Neptune does this, it ploows the Kuiper Belt and messes with all the objects in there. If you look just at Neptune isolation, it can’t tell you that story. It can’t tell you it used to be at a different distance from the Sun, closer to it than it is today. You also study exoplanets, planets beyond our solar system. I like thinking about the long-term orbital evolution of exoplanets. I’m a specialist on Reddit’s Ask Science, and a couple of years ago a user asked: “How many planets can you fit in a habitable zone?” And I went through the literature and said: “Well, you can pack a lot of them and they can just overtake each other.”

Well, Neptune migrated?

Yes! Kuiper Belt objects are like little ping pong balls that the planets bat around. Imagine you’re on a frictionless surface like an ice sheet, and you started hitting thousands of balls from one side of you to the other side of you. You’ll start to slide. This is how Neptune migrated. It took things from the Kuiper Belt, threw them around. When Neptune throws objects in, Uranus can get a hold of them and take them away, handing them to Saturn. So when Neptune pulls objects in, it tends to lose them, and when it throws stuff out they come back. As Neptune does this, it ploows the Kuiper Belt and messes with all the objects in there.

What makes this mission unique?

The mission is the first time we will deploy a seismometer on the surface of another planet. Astronomers installed seismometers on the Moon as part of the Apollo missions, but InSight is the first mission to put a seismometer on another planet’s surface. The seismometer will tell us where and when “marquesos” (earthquakes, but on Mars) occur and provide a “look at Mars” interior.

What is your role in this experiment?

I’ll be involved in studying marquesos. We want to know where marquesos occur geographically and at what depth, by trying to understand where there are active faults. A big part of what we’ll be doing is working with data returned from the magnetometer. This is the first time an instrument that measures the magnetic field will be deployed on the surface of Mars. We’ll hope to get some information about the magnetization of rocks near the surface and perhaps more importantly, to be able to measure the magnetic field and how it varies over time, for example, between day and night. Those variations might be able to tell us how electrically conductive the rocks in the interior of the planet are and, in turn, help us understand the composition and water content of those rocks.

This will be an important experiment to try and understand the history of water on the surface of Mars. We’d like to know how much is tied up in the interior of Mars to understand the water inventory of the planet. How will we use this information to understand the planet’s history?

We know from surface measurements from Mars Rovers and from images and satellites we’ve had in orbit for the last couple of decades that the planet’s early history was very different place than it is today. Surface water and ice were much more abundant and the atmosphere was much thicker. The big question is where did the water come from and where did it go? We know the history of water on the planet’s surface and in its atmosphere, but we don’t know about the interior and how much water is tied up in rocks inside Mars. Understanding the water content in the interior of the planet is a key part of being able to understand the history of water. It’s also important for comparative studies to better understand how much a planet changes during its history. Very early in its history, Mars went through the same general processes as Earth-heavy materials (metals) sank to the center to form the iron core, and rocks, which are lighter “float” on top forming the crust and the mantle.

Mars, like Earth and Venus, is a rocky planet but it isn’t as large, so it has undergone less reworking from its interior to its exterior over time. It has had tectonics and volcanism like Earth and Venus but the record of early processes should still be seen in its interior structure. By looking inside Mars, we hope to get a window into the early processes that all these rocky planets experienced.

How will we use this information to understand the planet’s history?

We examined political advertising and its impact on the share of the vote during the 2010 US midterm election and 2012 US presidential election campaign. Our focus was on advertising across the borders of designated marketing areas (DMAs), a term used by marketers to define marketing areas by town, city or major metropolitan area. People within the same electoral area that live on different sides of a DMA border are fairly similar, but they get exposed to different exposure levels of political advertising. For example, you and I could live across a road from each other but we belong to different media markets, and we would get exposed to totally different TV advertising.

What did you find?

The key finding was that advertising dollars spent by PACs were much less effective compared to advertising by the candidates, and negative ads performed very well.

We looked at vote share and turnout rates. We found candidates’ own advertising is effective in lifting the vote share as well as mobilizing turnout. In fact, negative advertising from candidates seems to be approximately twice as effective as advertising sponsored by PACs. PAC advertising was only slightly effective in affecting vote shares, and not effective at all in mobilizing turnout rates.

Why do you think negative advertising works so well?

We believe it is due to differences in source credibility across the various ad sponsors. Basically, advertising by PACs may lack credibility in the eyes of the audience. You would expect that, given the amount of money they were spending, that PAC ads would be more polished and professionally produced, but based on my experience, this was definitely not the case. And while the tone of candidates’ ads were usually very polished, the PACs ads came off as funny, aggressive, or a bit illogical.

By Tom Leslie

Negative advertising works in US politics

How do you think the study could be extended?

We only looked at advertising in the borders of DMAs. The effect of advertising in the DMA border areas is already very extreme and we only would be able to test if the effect continues in other areas. We think there could be a window into the early processes that all these rocky planets experienced.
Nanotechnologies and Opioid abuse

New research at UBC’s Okanagan campus, Harvard Medical School and the University of Texas is exploring the role nanotechnologies can play to reduce opioid abuse.

Sepideh Pakpour, an assistant professor at the School of Engineering, says nanotechnologies can help address drug addiction by identifying the most at-risk individuals — those who are physiologically predisposed to be affected by opioids — and help develop new therapeutic targets and personalize appropriate treatments.

“Owing to the unique and diverse properties of nanomaterials, they offer enormous opportunities when it comes to innovative scientific approaches to understanding addiction,” Pakpour says.

Nanotechnologies are extremely small devices that can do anything from monitoring neurotransmitters in the brain to enabling more sensitive drug testing and blood plasma monitoring. Pakpour explains nanotechnologies have already found widespread applications within life sciences, including targeted delivery of therapeutic biomolecules, contrast agents to monitor cancer cells and tumour biodinkers, hyperthermia, immunotherapies, and tissue engineering applications. However, their potential applications for opioid abuse diagnostics, drug detoxification, opioid dependence and addiction treatment remains untapped.

According to the new research, the speed and accuracy of nanotechnologies can result in a more effective approach in drug development and identification, along with better screening of patients who may be vulnerable to addiction. Theoretically, Pakpour says, nanotechnologies can enable researchers to improve their understanding of multiple addiction variables at the molecular level.

“Nanotechnologies can be designed to regulate brain-signalling pathways that are associated with drug addiction,” explains Pakpour. “And nanoparticles can be used to detect protein and microbial biomarkers in a person’s plasma, urine or saliva for successful and robust identification and discrimination of vulnerable individuals.”

With an interdisciplinary research background, Pakpour’s work bridges biology with engineering and her research group models how human microbiome interactions impact disease.

“With the help of funding agencies together with collaborations between nanomedicine, human microbiome and drug-abuse experts, we believe that nanotechnologies will provide a unique capacity for both predictive and therapeutic approaches in opioid dependency and addiction in the foreseeable futures,” she adds.

Enlightening Research

The idea that light has momentum is not new, but the exact nature of how light interacts with matter has remained a mystery for close to 150 years. Recent research from UBC’s Okanagan campus may have uncovered the keys to one of the darkest secrets of light.

Johannes Kepler, famed German astronomer and mathematician, first suggested in 1604 that pressure from sunlight could be responsible for a comet’s tail always pointing away from the Sun, says study co-author and engineering professor Kenneth Chau. “It wasn’t until 1943 that James Clerk Maxwell predicted that this radiation pressure was due to the momentum residing within the electromagnetic field of light itself.”

“Until now, we hadn’t determined how this momentum is converted into force or movement,” says Chau. “Because the amount of momentum carried by light is very small, we haven’t had equipment sensitive enough to solve this.”

Now that technology is sensitive enough, Chau, with his international research team from Slovenia and Brazil, are shedding light on this mystery.

To measure these extremely weak interactions between light photons, the team constructed a special mirror fitted with acoustic sensors and heat shield to keep interference and background noise to a minimum. They then shot laser pulses at the mirror and used the sound sensors to detect elastic waves as they moved across the surface of the mirror, like watching ripples on a pond.

“We can’t directly measure photon momentum, so our approach was to detect its effect on a mirror by ‘listening’ to the elastic waves that travelled through it,” says Chau. “We were able to trace the features of these waves back to the momentum residing in the light pulse itself, which opens the door to finally defining and modelling how light momentum exists inside materials.”

The discovery is important in advancing our fundamental understanding of light, but Chau also points to practical applications of radiation pressure.

“Imagine travelling to distant stars on interstellar yachts powered by solar sails,” says Chau. “Or perhaps, here on Earth, developing optical tweezers that could assemble microscopic machines.”

“We’re not there yet, but the discovery in this work is an important step and I’m excited to see where it takes us next.”

About the research

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Novel discovery could lead to new cancer, autoimmune disease therapy

A new discovery by an international research team — co-led by UBC Canada 150 Research Chair Josef Penninger and Harvard Medical School neurobiologist CINFORD Wolf — could have implications for therapies for cancer and autoimmune diseases.

The researchers outline a new understanding of the biology of T cells, a type of immune cell in the body, that demonstrates how the cells can be activated to either enhance immunity against cancer or block autoimmune disease.

T cells are the soldiers of the immune system and patrol the body seeking out pathogen-infected cells or aberrant cells that could become tumours. When T cells find such a cell, they proliferate and enter "combat mode" to fight danger to the body. However, a common problem is that activated T cells can be directed against the body’s own cells, leading to allergic reactions and autoimmune diseases such as colitis, asthma, multiple sclerosis, arthritis, or certain skin diseases.

The researchers found that BH4 — a molecule needed to produce the “happiness hormone” serotonin or dopamine — controls the growth of T cells.

In animal models, they found treating mice with BH4 blockers “calmled” T cell activity in inflammatory conditions. Meanwhile, they found that higher levels of BH4 activated growth of T cells, causing tumours.

“One fascinating feature of our discovery is that a system that was actually known in neurobiology for decades can play such a key role in T cell biology,” said study co-author Josef Penninger, the Canada 150 Research Chair in Functional Genetics and new director of the Life Sciences Institute at UBC.

“And since it regulates not only early activation but how T cells grow, the possibilities for medical applications are extremely varied, from controlling autoimmune diseases, asthma and allergies to having a new way to trigger anti-cancer immunity.”

As part of the study, the researchers have developed a new drug called QM385, which inhibits BH4 production, which they hope to soon start testing in human patients.
As far as science celebrity goes, little compares with America’s moonshot - the Apollo 11 mission — sent down on our lunar satellite on July 20, 1969. As flight surgeon for the mission, Bill Carpentier, MD, garnered a level of historical immortality few achieve in their field.

A pilot and specialist in aviation medicine, Carpentier’s résumé seemed tailor-made for attending to astronauts. But it was his swimming prowess, of all things, that set him on the path to becoming “America’s most famous doctor.”

Soon after arriving at the Manned Spacecraft Centre in Houston, Texas, in 1965, a 28-year-old Carpentier was settling in to finish his medical residency and become a flight surgeon trainee for NASA. With the Gemini program in full bloom, and NASA transitioning from military oversight into a civilian organization, there was no shortage of potential adventure.

One of the spots up for grabs was that of recovery physician for the Gemini capsule. As part of the helicopter crew responsible for snatching astronauts from the water after splashdown, the recovery physician would work with the Underwater Demolition Team (UDT) to address any emergency medical needs — even if it meant jumping into the water and treating the crew in a churning sea. But the physician that had been assigned to the next Gemini mission was not quite up to the task.

“So my boss said to me, ‘Weren’t you a swimmer in college?’” Carpentier recalls. As luck would have it, he had swum competitively, and underwent scuba training during his residency at Ohio State. “At that point in my life I didn’t think there was anybody in the world that was a better swimmer than I was. I said I’m not just a swimmer, I’m a damn good swimmer. He said ‘Would you be willing to jump out of a helicopter and give medical treatment?’ And I said yes! What could be a better job than that? Yeah, let’s go!

“And that’s what it was like at NASA in those days. There were jobs to do, there was something to learn. They’d ask, ‘Can you do this job?’ And if you said yes, then you just did it, and you better do it well.”

Carpentier was always up for a new adventure. Born in Edmonton, he moved to Vancouver Island in 1945, when his father returned from World War II after five years with the Canadian Army. Facing sparse prospects in Alberta, he resettled the family in Lake Cowichan to work the sawmills and be closer to his brothers.

Despite the smallville atmosphere of a logging town, Carpentier nurtured a deep curiosity about the outside world — particularly the idea of becoming a pilot — more than once considering a career in the military. While studying engineering and physics at nearby UVic, he spent his summers working for the Canadian Pacific Steamship Company, moving from job to job with each new opportunity — mess boy, freight loader, waiter, assistant purser. “I worked for them many summers,” he recalls, “because I like going to sea, I like being on the ocean. It was a great job — anything that they had open, I applied for.”

Although most of his income went to college expenses, he saved enough for flight training, earning his private pilot’s license by taking one-hour lessons in the small window of light left after working a 12-hour shift each day.

His interests eventually turned to medicine, earning him a spot at UBC’s medical school. In his fourth year he met Wilma Sloan, a nurse trainee who was also studying at UBC, and by the following summer they were married and off to Ohio State, where Carpentier took up a two-year residency program in aviation medicine.

A researcher at heart, he seemed destined for academia, planning to earn his PhD at McGill University in Montreal. But only months before leaving Ohio, with Wilma already proficient in French lessons, he received a call with the question of a lifetime. NASA’s Manned Spacecraft Center was instituting a third-year training program in aerospace medicine, and would like to apply.

Shortly after he was assigned as recovery physician for the Gemini capsule, he hit a snag. The US Navy insisted he learn to conduct rescue jumps, and within days he found himself staring into the Gulf of Mexico from a Coast Guard helicopter.

“‘I said, ‘Would I like to apply?’” he recalls. “‘My god, would I like to apply!’ I would really, really, really — four hundred times really — want to come down, but I’m on an exchange visitor visa. I don’t have a green card.’

But four little words on the other end of the phone changed Carpentier’s life: “We can fix that.”

After six months of investigation by the RCMP, the US State Department, and the FBI, he had his security clearance in one hand and his green card in the other. In January 1967, Bill and Wilma hopped in their little car, and off they went to Texas.

The timing couldn’t be better. NASA, only seven years old, was snapping up the Mercury program that sent the first Americans into space, and with the Apollo missions only four years away, the Moon was as incredibly near as it was incredibly far.

But shortly after he was assigned as recovery physician for the Gemini capsule, he hit another snag. The US Navy insisted he learn to conduct rescue jumps, and within days he found himself staring into the Gulf of Mexico from a Coast Guard helicopter.

Carpentier had been told by outgoing flight surgeons that the UDT teams — the predecessors to the Navy Seals — could jump out of a helicopter at 40 knots from 40 feet in the air, and he wanted to prove he was up to the task.

The pilot refused, deeming it too risky, but Carpentier insisted. There would be no rescue buddy in the water with him. No life preserver, no scuba gear, nothing but a wetsuit jacket for flotation. He knew that if he had to
After carefully explaining the mission, Armstrong's press briefing took 10 minutes. A few hours later, he boarded the C-130 and took off. The last time that Carpentier had been on a plane was with the Apollo 16 crew, but those were the days when they were being tested out of an Air Force base. He was looking forward to being on a plane again.

Armstrong was a science fiction enthusiast, and Carpentier had been too. They had both read the same books and watched the same movies. Armstrong had even written a science fiction novel called "Starship's Gate." Carpentier had read it and thought it was very good. He had even recommended it to Armstrong.

But now they were back in the real world, and Carpentier was feeling a little homesick. He had been away from his family for so long, and he was missing them. He had promised them that he would be back soon, but he was not sure if he would be. His mind was filled with thoughts of his family, and he could not help but wonder if he would ever see them again.

But for now, he had to focus on the mission. He was there to help Armstrong and Aldrin, and he was going to do everything he could to make sure that they were safe. He was going to do his job, and he was going to do it well.

And with that, he stepped onto the surface of the Moon – Carpentier stepped onto the surface of the Moon. The world was watching, and he knew that he had to do his job. He was a scientist, and he was going to do his job.

The End.
"It was just like it was in the movie," Carpenter later told the Canadian Space Agency. "That long silence, the blackout period that went on longer than on other flights. Maybe they haven’t made it. Maybe we’re never going to hear from them again. You think all of those things. Then, when they did, the place just erupted."

In one sense, Carpenter’s time at NASA ended after the Apollo program. He had accomplished in the department’s most historic decade more than most people do in a lifetime. More interested in studying medicine than becoming management, he left NASA for a residency at Baylor University, then spent the next 30 years working in nuclear medicine at Scott and White, a private company in Temple, Texas.

When the Apollo 13 command craft was crippled in an explosion in April 1970, the crew limped home in their lunar module, which could only supply half of the oxygen the astronauts would need for the four-day trip. Carpenter and the medical team scrambled to calculate the buildup of carbon dioxide while engineers devised a stop-gap solution to stretch the breathing supply until they reentered the atmosphere, a tense period millions of others would eventually share watching the film Apollo 13.

In another sense, this was just his first chapter. More than a flight surgeon, Carpenter was a powerful voice for the health of the astronauts, recording enormous amounts of physiological data to make future missions safer. He continued working as a part-time consultant for NASA, administering radiopharmaceuticals to crew members and collecting data on future programs such as Skylab and the space shuttle.

While he will be remembered for his contributions as a doctor, it’s his data that will endure. Nearly five decades after he began collecting detailed physiological information from the astronauts, he is still compiling the records into a book.

“It sort of tells a story, but it’s exploring the data and my feelings of what can be learned and where do we go. My whole purpose is to be able to document everything that went on during the Mercury, Gemini, and Apollo programs and do an integrated analysis. It’s valuable information that is never going to be repeated. I’m done with Mercury, I’ve almost finished Gemini, I’ve got most of the data for Apollo, and I’m just gonna keep going, documenting everything from flight to flight to flight, as long as I’m able and as long as NASA will let me.”

“All I got to do is live six more years to finish my projects and I’ll be a really happy guy,” he laughs. Although still in Texas, he summers at his cabin on Pender Island, and at 83, goes to CrossFit three days a week. As far as his legacy goes, he’s more concerned with the data than his own name.

“Talking about this over the years, I guess what strikes me most is how bloody lucky I was to live through the golden age of space flight. Five hundred years from now, a thousand years from now, people will look back at the century and say ‘What did those guys do back then, flying to the Moon for the first time?’ It’s going to be one of those things that the 20th century will be remembered for.”

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Haley Seven Deers
Third-year undergraduate student, History and Anthropology

UBC Okanagan
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The future starts today.
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The boy lived on Earth. The boy was me.

I grew up as an only child in Chatham, Ontario, a smallish city in farming country. We were a fairly poor but strongly loving family who lived on the edge of town, in a neighbourhood that was—as they say—on the wrong side of the tracks. In fact, we did live close to the railway tracks. In one sense, we actually lived on the right side of the tracks. Because on the other side of the tracks was the smokestack of Darling’s, a rendering plant. That’s a “factory” where they turned edible animal parts into ingredients that went into stuff like soap, toothpaste, crayons, glue and shoe polish. The stuff that came out of a rendering plant’s smokestack did not smell good, so being on the other side of the railway tracks from one could be considered the right side of those tracks.

My first memories of my fascination with the stars were of how I fell in love with the sky. My mother June didn’t take me out one warm summer night to share with me what I am today. It was because of them.

When I was seven years old, they bought me a telescope. A Tasco brand refractor—the cheapest model available—that they bought at Zellers. It may have been cheap, on a wobbly mount, with optics whose quality was more G.I. Joe than Galileo, but it was my first window into the Universe. I would take my telescope almost every night to the darkest place in our neighbourhood. The darkest place in our neighbourhood was the cemetery. Did I mention we also lived near the cemetery? 17 Wilkinson Street was a real estate agent’s dream! Location, location, location! Close to the railroad tracks! A rendering plant nearby! Convenient cemetery! All that was missing to make our house a perfect estate agent’s dream! Location, location, location!

I grew up as an only child in Chatham, Ontario, a different era, and with my telescope. It was a smaller town, a different era, and what I am today.

I went straight from the Terrible Twos to the Theoretical Threes to the Feynman Physics Fours. My parents had no idea about the sciences and technologies that were my passions almost as soon as I left the womb. My dad worked at the assembly line of the International Harvester truck plant for 40 years. My mom worked at home, and during some summers at the local Libby’s vegetable canning plant and at the Post Office during the Christmas holidays. My parents trusted me on my own even at the age of seven. Occasionally, while I was observing in the cemetery, an Ontario Provincial Police cruiser would patrol the graveyard. As the officers’ flashlight scanned the tombstones, they sometimes saw a strange silhouette. Moving cautiously to the scene, they would find a seven-year-old boy and his Tasco telescope at two in the morning. They would ask “What’s your home address, little boy?” I would dutifully respond “17 Wilkinson Street.” The officers would escort me home, bang on the front door of our house, and one of my parents would get up from bed to tell the perplexed police that I had permission to be in the cemetery at that time of night.

By the time I was 13 years old, I was a full-blown junior egghead. An unabashed–”astronomy was my best friend Kevin and I were already chasing our dreams. He wanted to be a pilot and I wanted to be an astronaut. Kevin is now an Air Canada Jazz pilot, possessing Dash 8 aircraft, and I am now an astrophysics professor. Sometimes the magic works. While I was still a junior scientist wannabe in Chatham, officials with NASA and the US State Department in

Washington, DC, were devising a plan to commemorate the last Apollo mission to the Moon. The young space ambassadors would have front-row seats at the launch of Apollo 17 in Florida, front-row seats at Mission Control in Houston during the last moon walk and would watch the splashdown of the astronauts’ command module on a television screen in the United Nations building.

Eighty countries accepted the invitation, including Canada. To choose Canada’s space ambassador, the government held a contest for anyone between the ages of 17 and 21 to write an essay about the importance of space exploration to humanity. I entered the competition. I was only 13 years old. I lied about my age. I won.

<image>

By the time anyone in the Canadian government or in NASA knew how old I was (or more to the point, how young I was), it was too late to do anything about it. So, in December 1972, a now 14-year-old Canadian boy was off to Washington to join 79 older teenagers and young adults for the start of a 10-day adventure paralleling the eight-day adventure of the Apollo 17 astronauts. From the US capital, a chartered 707 jet took us to our next stop: the Kennedy Space Center in Florida to watch the launch. We stayed in an Orlando hotel. I was in the room next to Neil Armstrong and his family, and we hung out at the pool together. How many kids (other than Neil’s) can boast to have shared a room with the namesake of the Roman god of the Sun).
the boy who touched the moon

In this Apollo 17 astronaut photo, January Monday del Pozo of Honduras, N. Schmidt calls it rocket sample from the Apollo 17 "Valley of Tourus-Littrow on the lunar surface. Photo credit: NASA

edge of what NASA calls the PLAFS (Post-Launch Advanced Fallback Zone). Translation into non-NASAese: Rocket scientists had calculated that, if the rocket exploded, pieces would fly no farther than 5 km from the launch pad. The launch of Apollo 17 was the first and only launch of a Saturn V rocket at night. Later in life, I was fortunate enough to witness a total solar eclipse in southern Hungary, where the Moon’s shadow raced toward us across the farmland, and confused birds settled down before hitting the ground. So they put the control centre, the media, and the VIPs a little more than 5 km from the launch pad.

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When I was 14, I had a moon rock. How many kids can say that? In 1998, the FBI had a sting operation where they recovered the moon rock that had been given to the youth space ambassador from Honduras. That helped keep my hope alive that someday I would see my moon rock again.

In September 1973, I travelled from Chatham to Ottawa to present the Goodwill Rock before it had been cut into smaller pieces. I dogged deeper and deeper, patiently trying different combinations of words in my search engine. After one particularly lucky keystroke, I caught my breath. My rock had appeared on my monitor. It was being held by a smiling man I did not recognize. In the lower right corner of the photo was a digital date and time stamp. The photo had been taken in the year 2000. Using this as my first clue, persistent detective work eventually revealed the hidden location of my missing moon rock. A secure warehouse in the town of Tourus-Littrow on the lunar surface. Image credit: NASA

In Florida, we were 5 km from the action. Once the astronauts were on the Moon, we – and everyone on Earth – were about 380,000 km from the action. But the young space ambassadors eventually found ourselves in Houston, Texas, at the Johnson Space Flight Center. The astronauts might be nearly half a million miles away, but we had front-row seats in Apollo Mission Control, only metres from the big screens that showed us the last men to visit the Moon preparing to come home.

Just before the close-out, when the astronauts would return to their Lunar Module and leave the lunar surface, the Apollo 17 commander, Gene Cernan, and co-pilot, Harrison “Jack” Schmitt (the only scientist – geologist included – to visit the lunar surface) walked in front of the camera, near the US flag. Jack was carrying a rock. Gene started talking to us. To us! The last man on the Moon gave us a moon rock. It became known as the Goodwill Rock. When on Earth, it was cut into pieces and each of the International Youth Ambassadors presented theirs to their respective governments.

In September 2013, I travelled from Chatham to Ottawa to present the rock to Governor General Roland Michener so that it could go on public display at the National Museum. At the Rideau Hall ceremony, with an RCMP honour guard, I gave away my moon rock. And in exchange, the Government of Canada gave me an autographed hardbound copy of the National Museum book, The Birds of Canada.

Decades later, I was hosting Apollo 17 commander Gene Cernan in Vancouver on a tour to promote his book. The last man on the Moon. I told him the story and got him to sign the book they gave me. He wrote “Jaymie. I can’t believe you gave away a moon rock for Canadian birds!”

The rock was put on public display in Ottawa, and every few months I would call the museum staff to check on it. In 1975, I was informed that the rock had been part of a travelling exhibit, and in Edmonton it had been stolen. I thought to myself: “If I’d known they were going to be so careless, I would have just kept it under my bed in a shoebox.”

For years after that, I kept checking the news for any report that my moon rock had been recovered. There is a genuine black market in moon rocks. The agency responsible for recovering them is the US Customs Service. I guess the logic is that these rocks were imported into the United States. Imported from the Moon. In 1998, the FBI had a sting operation where they recovered the moon rock that had been given to the youth space ambassador from Honduras. That helped keep my hope alive that someday I would see my moon rock again.

I did. But in a very unexpected way.

In 2008, I was preparing a lecture on the Moon for an introductory astronomy course at UBC. I wanted to share with the students my very personal connection to the Moon, so I was searching the web for a picture of the Goodwill Rock before it had been cut into smaller pieces. I dogged deeper and deeper, patiently trying different combinations of words in my search engine. After one particularly lucky keystroke, I caught my breath. My rock had appeared on my monitor. It was being held by a smiling man I did not recognize. In the lower right corner of the photo was a digital date and time stamp. The photo had been taken in the year 2000. Using this as my first clue, persistent detective work eventually revealed the hidden location of my missing moon rock. A secure warehouse in the town of Tourus-Littrow on the lunar surface. Image credit: NASA

Apollo 17 astronauts Gene Cernan and Harman “Jack” Schmitt spoke directly to the international youth science tour from the Moon. Noting that they had collected a very significant rock composed of many fragments, Schmitt said: “A portion of a rock will be sent to a representative agency or museum in each of the countries represented by the young people in Houston today...” Cernan said: “We salute you, promise of the future.” Image credit: NASA

By the time I was 13 years old, I was a full-blown junior egghead. An uber-astro-geek.

In Florida, we were 5 km from the action. Once the astronauts were on the Moon, we – and everyone on Earth – were about 380,000 km from the action. But the young space ambassadors eventually found ourselves in Houston, Texas, at the Johnson Space Flight Center. The astronauts might be nearly half a million miles away, but we had front-row seats in Apollo Mission Control, only metres from the big screens that showed us the last men to visit the Moon preparing to come home.

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How many kids (other than Neil’s) can boast that they played “Marco! Polo!” with the first human to leave footprints on the Moon?
of Aylmer, Quebec, which stores much of the official collection of the Canada Museum of Nature in Ottawa. Nobody knew the rock was there until museum staff stumbled upon it 25 years after it had disappeared.

To me, it was a real-life version of the closing scene of the movie Raiders of the Lost Ark, where a janitor pushes a huge crate containing the ark in a huge warehouse stacked to the rafters with other mysterious crates, never to be seen again. Indiana Jaymie and the Raiders of the Lost Rock.

I contacted the curator of the Museum of Nature, Michael Picard, to explain that he was in possession of my rock. Me: “Hello, Mr. Picard. You have my moon rock.” Him: “Of course we do, sir. Please allow me to transfer you to our gift shop.” Me: “No, wait! I’m an astrophysicist, and an Officer of the Order of Canada, and I was given the rock when I was 14 years old.” Him: “May I speak with your caregiver or parole officer?” Me: “I have proof! The last man on the Moon signed my copy of the “Books of Canada.” Him: “Hard to argue with that. Are you sure you wouldn’t like me to transfer you to the museum gift shop? They have some very nice souvenir paperweights. Maybe one of those is the rock you’re looking for?”

It was not the actual conversation, but I suspect something like that was running through Mr. Picard’s mind in the early going. Once I knew the backstory of me and the moon rock, Mr. Picard was intrigued and supportive.

While awaiting my personal milestone, the reunion with my moon rock, months passed and a muffled public moon milestone loomed. The 40th anniversary of the Apollo 11 lunar landing on 20 July 1969. In anticipation of that milestone, I was being interviewed by phone about the Moon and the legacy of Apollo by Vancouver Sun columnist Pela Martin. At one point, I mentioned in passing my personal connection to the Moon. “Oh yeah, Pela, when I was 14, I trained a piece of the Moon.”

That became the lead story, on the front page of the weekend edition of the Vancouver Sun, just before the Apollo 11 anniversary. The headline: “The Boy Who Touched the Moon.” The publicity, which spread beyond Canada to newspapers and web sites around the world, led to a question about the Moon and the legacy of Apollo by Vancouver Sun.

In the wider community, he serves as a consultant to the university’s Alumni Relations in the development of alumni fundraising efforts and strategic initiatives. Through his work as a scholar, teacher, volunteer, writer and award-winning illustrator, Dr. Shoemaker is an influential advocate for reading and excellence in children’s literature who is dedicated to the development, dissemination, and promotion of high-quality books. She has illustrated 40 children’s books and produced an extraordinary collection of teaching and learning materials.

Matthews presented the moon rock to Governor General Roland Michener. In exchange, he received a copy of The Birds of Canada. Decades later, the book was signed by Apollo 11 commander Gene Cernan, who wrote: “Jaymie! I can’t believe you know a man who owns a moon rock!”

The Museum of Nature was not prepared at the time to put the rock on public display, so the Canada Science and Technology Museum in Ottawa stepped forward and adopted the rock briefly. And I was finally reunited with my rock in November 2009.

No one knows how the rock ended up in that warehouse, or for how long it languished there unseen. It definitely wasn’t stolen on a travelling exhibition, as I’d been told in 1972. Since even the most senior staff today at the Museum of Nature were not associated with the museum then, I fear we may never know the full story of its clandestine travels. My job – my passion – is to solve cosmic mysteries. Who’d have guessed that, in the journey of a moon rock born billions of years ago, carried to Earth across over 380,000 km as a souvenir by the last lunar tourists, the most mysterious leg of that journey would be a duration of 12 km from Ottawa to Aylmer, Quebec?
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Tina Mah
BSc (SFU), UBC DAP Student

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Bjarni Tryggvason grew up with a desire to be an astronaut, but knew it was a faint hope. Like most young people in the 1960s, he followed the space race with interest and was stuck to the TV screen during the moon landing. However, he was resigned to the idea that becoming an astronaut was likely out of reach for a Canadian. Always fascinated by flying, he started taking flying lessons right out of high school and got a commercial pilot’s license with the goal of eventually becoming an airline pilot. He enrolled at UBC as a backup plan. “You blow one pilot medical exam, and your airline career is done,” he says. But the discipline he chose to study—engineering physics—he hooked immediately. “I ran into some really interesting stuff on the science side, decided not to become an airline pilot, and stuck with research and development.”

It turned out to be a good plan. After UBC he did post-grad work at Western University in mathematics and fluid dynamics, which led by 1982 to a research position at the National Research Council in Ottawa (“low speed” was anything under 480 mph). He was lead researcher and fluid dynamics, which led by 1982 to a research and development project. In 1986, he entered the Low Speed Aerodynamics Lab at the National Research Council in Ottawa (“low speed” was anything under 480 mph). He was lead researcher and, in 1988, joined the team of aerospace researchers at the National Research Council in Ottawa.)

Tryggvason supported Marc Garneau during his 1984 space shuttle flight, developing procedures for onboard experiments, and was on track for subsequent missions. But in 1987, the Challenger shuttle blew up during launch. Delaying the next flights for Canadian astronauts for five years. During that time he began working on systems to isolate space experiments from the vibrations caused by the everyday workings of the spacecraft. He was the lead developer of the Large Motion Isolation Mount and the Microgravity Vibration Isolation Mount (MMI). At the same time, he trained as a backup astronaut for the 1992 space shuttle flight. And then, in August 1997, came the chance to go to space. His job as an on-board payload specialist was to conduct tests on the second-generation MMI device and perform experiments that would highlight the effects of spacecraft vibrations on fluid experiments. He was the lead developer of the Large Motion Isolation Mount and the Microgravity Vibration Isolation Mount (MMI).

But does the job change just after orbiting the world in a free-fall state? “You sleep in sort of a sleeping bag. But since you’re in free fall, you have to strap your pillow to your head, otherwise it would float away.” You don’t actually need a pillow, but you use it because you’re used to having one. After a couple of nights I stopped using it because it just didn’t make sense. Also, your brain tells you to roll onto your side or back or whatever. Since you’re in free fall, it doesn’t matter, but your brain tells you to do it anyway. It’s an interesting experience.

And like after orbiting? Tryggvason and his son, an airline pilot, both fly competitive aerobatics as well as performing in air shows. For years after retiring from the Canadian Space Agency, he worked at the International Test Pilots School in London, Ontario, training pilots to become test pilots, and he still works as a test pilot himself. His expertise makes him a sought-after pilot for experimental and vintage aircraft. In 2003 he flew a replica of Alexander Graham Bell’s Silver Dart to mark the centennial of the first flight in Canada and the British Empire. He has more than 6,500 hours as a pilot, and has flown more than 50 aircraft types. He is also currently working with a US-based group developing STEM experiments that are conducted on the International Space Station.

He completed the updated mission specialist training between 1995 and 2000, and was scheduled to go on another mission. But he felt his kids, both in high school in Florida at the time (his daughter is now a veterinarian), needed his attention to help them start their careers and to reacquaint them with Canada. So he left Houston in 2001, figuring he’d spend a couple of years with family business, then return, but he never did.

"When sleeping, your brain tells you to roll over onto your side or back or whatever. Since you’re in free fall, it doesn’t matter, but your brain tells you to do it anyway. It’s an interesting experience."
Two UBC researchers are conducting Canada’s first psychosocial space experiment to learn how astronauts adjust to life in the cosmos.

By Madeleine de Treoquaye, BA’17

“At least one space mission has been cut short due to psychological problems and other missions have suffered from interpersonal clashes among the crew.”

He says that when he first raised the issue of potential psychological problems during long-duration space flights, he was laughed at by a senior astronaut.

“He laughed at me and he said, ‘You don’t understand this. These are the test pilots. Nothing fazes them. They can work together, they can work alone. There’s not going to be any friction. There’s not going to be any problems. They can deal with anything. They’ve got the right stuff.’ Well, unfortunately he’s not around to know that he was wrong and I was right, because there have been psychological problems of various sorts.”

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The researchers say that measuring post-experience growth will be an important part of this study, since space agencies and space psychologists have not paid as much attention to the beneficial long-term after-effects of spaceflight. To do this, they will assess the effects shortly after return and six months later.

Suedfeld says the positive effects can include a heightened sense of purpose, comradeship, as well as a satisfaction in achieving something that few people have done.

“People come back and feel stronger and more courageous - more competent to deal with other problems,” says Suedfeld. “They become more universalistic. They think about humanity as a whole rather than the particular country that they come from. Some of them have expressed unhappiness that there is so much strife on Earth when, if you go into space, it’s just this one beautiful blue marble.”

At Home in Space wraps up in 2020. The project’s findings could be used to improve bonding, morale and environmental design for communities on Earth living in remote, confined or isolated locations, including oil rig workers, crews on long-voyage cargo ships, researchers in remote locations and those on long military deployments. The researchers say the study could even have applications for elderly residents living in group housing who experience limits on living space, privacy, and control over their environment.

What we learn from studies in polar and space environments helps to predict and anticipate what might happen under certain circumstances in these communities, says Suedfeld.

The researchers are interested in how astronauts from a variety of cultures and nationalities create a unique “space culture” that transcends their cultural differences. Do they develop a set of shared cultural norms within the confines of an isolated spaceship?

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“There have been situations in which astronauts were by the end of their stay up there so angry with each other that... one of them said, ‘I don’t even want to live in the same city as this guy for the rest of my life, never mind having any contact with him.’ So it’s good to know what conditions might bring that about, and how you could make the conditions more positive.”

To that end, Suedfeld has worked with NASA and the Canadian Space Agency to help determine optimum capsule design for habitability and psychological health. And together with Johnson, he completed a multi-year study of retired Russian cosmonauts, analyzing their motivational profiles, coping strategies and post-experience growth, as well as how their work impacted their family relationships.

Their overarching goal is to identify the factors that increase astronauts’ psychological well-being, rather than simply treating adverse effects, something known in the field as salutogenesis.

NASA astronaut Scott Kelly shows off his personal living quarters on the ISS. Scott tweeted this image with the comment: “My #bedroom aboard #ISS. All the comforts of #home. Well, most of them. #YearInSpace”. Image credit: NASA

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At Home in Space wraps up in 2020. The project’s findings could be used to improve bonding, morale and environmental design for communities on Earth living in remote, confined or isolated locations, including oil rig workers, crews on long-voyage cargo ships, researchers in remote locations and those on long military deployments. The researchers say the study could even have applications for elderly residents living in group housing who experience limits on living space, privacy, and control over their environment.

What we learn from studies in polar and space environments helps to predict and anticipate what might happen under certain circumstances in these communities, says Suedfeld.

The researchers are interested in how astronauts from a variety of cultures and nationalities create a unique “space culture” that transcends their cultural differences. Do they develop a set of shared cultural norms within the confines of an isolated spaceship?
“With CHIME we will measure the expansion history of the universe and we expect to improve our understanding of the mysterious dark energy that drives that expansion ever faster. This is a fundamental part of physics that we don’t understand and it’s a deep mystery. This is about understanding how the universe began and what lies ahead.”

- UBC astrophysicist Mark Halpern, principal investigator, CHIME

The radio signal from the universe is very weak and extreme sensitivity is needed to detect it. The amount of energy collected by CHIME in one year is equivalent to the amount of energy gained by a paper clip falling off a desk to the floor.

The CHIME telescope incorporates four 100-metre long U-shaped cylinders of metal mesh that resemble snowboard half-pipes. Its overall footprint is the size of five NHL hockey rinks.

CHIME collects radio waves with wavelengths between 37 and 75 centimetres, similar to the wavelength used by cell phones.

The CHIME telescope incorporates four 100-metre long U-shaped cylinders of metal mesh that resemble snowboard half-pipes. Its overall footprint is the size of five NHL hockey rinks.

Most of the signals collected by CHIME come from our Milky Way galaxy, but a tiny fraction of these signals started on their way when the universe was between 8 and 11 billion years old.

“CHIME’s unique design enables us to tackle one of the most puzzling new areas of astrophysics today – Fast Radio Bursts. The origin of these bizarre extragalactic events is presently a mystery, with only a few dozen reported since their discovery a decade ago. CHIME will detect many of these objects every week, providing a massive treasure trove of data that will put Canada at the forefront of this research.”

- Astrophysicist Victoria Kaspi (McGill University), DSc ’18 (UBC), lead investigator for Fast Radio Bursts project

The data rate passing through CHIME is comparable to all the data in the world’s mobile networks. There is so much data that it cannot all be saved to disk; it must first be processed and compressed by a factor of 100,000.

The CHIME project is led by UBC, McGill University, University of Toronto, and the NRC’s Dominion Radio Astrophysical Observatory, with collaborating scientists across North America.
They banter like George and Gracie, share the airtime, laugh a lot. UBC alumni Barbara and Ken Hallat are telling the story of their wedding reception at Cecil Green Park House on June 28, 1968, their 50th anniversary celebration there in 2018, and the years in between. They speak of being “lucky” and “blessed,” and they’re flirting like newlyweds.


Barbara Cartmell and Ken Hallat met on the ice rink at Kerrisdale Arena as grade 10 students at Sir Winston Churchill High School. For a couple of years, they played the field, as it was called in those days. As of grade 12, they dated exclusively. “We had lots of fun!” is how Barb explains their decision to go steady. Along with two other girls, they carpooled together to UBC, where Barb earned her BEd and Ken his MBA. “Over seven years, we talked about a lot of things,” Barb says. “He was somebody I could trust and we knew each other well.”

They were married at St. Helen’s Anglican Church, where the minister, Barb’s uncle, had double-booked the 6 pm time slot. They obliged the other couple, married at 7, and then moved the party to Cecil Green Park House. “There was no alcohol,” Barb laughs, “just tea and coffee and a punch bowl. A little band. It was exactly what I wanted.”

First developed in 1912, the Cecil Green estate features a fully revitalized old-world mansion and glass-covered terrace surrounded by lush, sprawling gardens and the sea. “We had access to Cecil Green Park House for the $15 alumni fee charged at the time,” Ken reveals. Barb recalls a wedding party made up entirely of family, and many more extended family and close friends among their 100 guests. The impressive venue books just one event at a time, so they had the place to themselves.

“I always gardened with my dad,” Barb reminisces, “so we loved the gardens. It was like having it at home.”

“We loved the venue and the spectacular views from the patios.” In fact, Ken admits, “We didn’t look anywhere else.”

The same was true when it came time to celebrate their golden wedding anniversary. “The 28th was booked,” Ken says, “and we tried to get [the other party] to move their date, but they couldn’t, so we held it on the 27th.” Seems their graciousness has stood the test of time.

The secret to their happy marriage? “Balance,” says Ken. “Your married life, your individual life, your career have to be in balance. Flexibility... there have to be two points of view. And do some work on the relationship, but don’t make it a job!”

“Marry somebody you trust and love,” Barb says, “and have fun!” There’s a pause. “Luck,” she adds.

“Luck and timing,” Ken says at the same time. They laugh.

BOOK YOUR NEXT EVENT
Overlooking the Strait of Georgia with panoramic views of the mountains bordering Howe Sound, Cecil Green Park House offers a uniquely Vancouver setting for your wedding or special event.

UBC faculty, staff, and alumni receive a 10% discount on wedding bookings.
David Strangway was UBC’s 10th president, serving from 1985-1997. He was a controversial figure in that he had a vision for the university that stirred debate. Some would say he transformed a middle-level, regional university into an international educational and research powerhouse (which he did); others would say he took a perfectly good, well-loved middle-level regional university and completely changed it (which he also did). In the process, he conducted what was at the time the largest fundraising campaign in Canadian university history. He went on to found Quest University in Squamish, BC, a private, non-profit liberal arts and sciences university. He died in December 2016.

Strangway was, as well, a renowned geophysicist. He taught at the University of Colorado until 1965, when he became an assistant prof at MIT. He joined NASA in 1970 as the chief of the Geophysics Branch. He designed lunar experiments for the Apollo missions and was the point person for the analysis of the samples returned to Earth.

He went on to design advanced geophysical experiments for the missions, select sites for investigation, and train astronauts to conduct experiments. (During one of the communications between Houston and the Apollo 17 astronauts, capsule communicator Robert Parker referred to Strangway as “Dr. Strangelove,” a whimsical reference to the 1964 Stanley Kubrick film of the same name.) Strangway was also involved in developing electro-magnetic tools for lunar exploration and in studying the early history of the Moon by examining its magnetic field. He authored or co-authored more than 165 research papers that include results of his studies on the lunar samples, and in 1972 was awarded the NASA Exceptional Scientific Achievement Medal. Strangway counted his years at NASA as the most exciting of his academic career. As well as his fascination with the science, the missions by nature were intense. “There was tremendous suspense,” he told the Alumni Chronicle in 1985. “We had to be ready to make rapid responses if something went wrong with the mission or if somebody said, ‘Look, there’s only a few minutes left, what do we do first?’ All the training, the priority setting, the team sense that went with this, and then culminating in the actual missions – that’s what was so exciting at the time.”

His office at UBC was a testament to his time at NASA. The walls were covered with depictions of the planets, and his bookshelves were crammed with space-oriented books, both coffee-table worthy and academic. I had the privilege of writing speeches and columns for him during his presidency, and he often talked, in an animated way, about his days at NASA. Like many academics-turned-administrators, he missed the exhilaration of pure research. He was, to the end, a scientist. ~ Chris Petty, MFA ’86

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The complete alumni UBC tour calendar is available online at: alumni.ubc.ca/travel
Please contact Worldwide Quest for all bookings and to request detailed itineraries for all tours.

1 800 387 1483 | travel@worldwidequest.com

“It was a very well orchestrated adventure.”
- Harold R., Kenya Safari 2018

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Sign-up for our Travel Club e-newsletter and be the first to hear about new tours!
Nineteen-year-old Hubert Fortier is nearly a year out of high school and apprenticing as a welder. He’s submitted applications to a few universities, deciding whether to rebuild or relocate, but he’s counting on a career in the trades. That May, 125 wildfires burn through Alberta, 37 of them out of control, and one takes down his home. A week later, as family and friends are watching whether to rebuild or relocate, Fortier receives an acceptance letter from UBC. Just like that, he is on his way to Vancouver.

Fortier watches live along with millions. From then on,” says Fortier, “it was all rockets.” His timing impeccable, a Google search turns up the rocket company he dreams of joining. “I don’t want any place that’s just a job,” he says. “I want to be part of the project.”

His timing was impeccable. SpaceX successfully launches Falcon 9 from Cape Canaveral Air Force Station in Florida toward the International Space Station, Hubert Fortier watches live along with millions. “From then on,” says Fortier, “it was all rockets.” His timing impeccable, a Google search turns up the newly minted club.

September 2016. UBC Rocket hosts its first info session. It’s standing room only. Applicants numbers are overwhelming, and Rocket becomes UBC’s largest student engineering design team. Fortier makes the cut. His trajectory is set. June 2017, somewhere near Truth or Consequences, New Mexico. The 10-month-old club arrives at the inaugural Spaceport America Cup in its first liquid-fuel engine, and in June will demo-launch a liquid-fuel rocket in Spaceport America Cup’s 100-kilometer challenge. The composites subteam, led by Lauren Lee, will use advanced techniques and materials to form the fin cans – the central structure that connects the fins and motor to the body of the rocket – as a single unit, a feat never before achieved by a student team. Both assays are prep for Base 11, the bar is high – 100 kilometres above sea level, to be exact. That altitude, called the Kármán Line, represents the boundary between Earth’s atmosphere and outer space. The Base 11 Space Challenge, sponsored by National Rocketry League in the US, is offering $1 million to the first student-led university team to cross it before the end of 2021. The countdown is on.

Rockeeters

We are looking for people who do not shy away from long-term challenges, are able to commit a significant amount of time to the team, and are self-motivated to complete tasks to extremely ambitious deadlines, reads the UBC Rocket membership application. Set aside roughly two hours to complete the form. Most of that time will be spent learning some rocketry basics. Of 115 new applications, the club accepted 60, bringing total membership to 90. A conscious approach to inclusion means the team is diverse in every respect. Members’ hail from engineering, business, science, and arts. Some bring no relevant experience at all, but have proved over those two hours that they can learn, and they’re willing to work.

By January, they have tested their first liquid-fuel engine, and in June will demo-launch a liquid-fuel rocket in Spaceport America Cup’s 100-kilometer challenge. The composites subteam, led by Lauren Lee, will use advanced techniques and materials to form the fin cans – the central structure that connects the fins and motor to the body of the rocket – as a single unit, a feat never before achieved by a student team. Both assays are prep for Base 11, the million-dollar challenge beginning in May of 2020. And if by chance they win that prize, Rocket will create two endowment funds at UBC of USD $500,000 each: one to sustain the club, and the other to support Geering Up, UBC’s STEM subject camps, clubs, and workshops for school-aged kids in BC.

Rocket’s motto is a question: “What could go wrong?” Answer: A lot. So they’ll commit an average of 5 hours per week through the year, and 20+ hours per week during the long breaks.

The competition at the 2017 Spaceport America Cup.

Final Frontier

Once among the world’s leaders in rocket engineering, Canada no longer has a rocket program of its own. Meanwhile, the United States’ International Traffic in Arms Regulations (ITAR) restrict the export of defense and military-related technologies for national security reasons. Translation: Canadian rocketeers can’t find jobs on the home front, and they can’t work for American rocket companies, either. (In Joren Jackson’s case, his Point Roberts address was the loophole that meant he could accept SpaceX’s job offer.)

In fact, if Canadian rocketry activist Adam Trumpour hadn’t made a mission of it, the Base 11 Space Challenge would be off limits too. A concept designer at Pratt & Whitney Canada and co-founder of Continuum Aerospace in Toronto, Trumpour is also one of Canadian rocketry’s loudest voices. At the 2017 Canadian Small Satellite (SmallSat) Symposium in Toronto, he invited UBC Rocket to share the floor, and their combined passion raised enough money from the audience that day to create a Canadian rocketry competition, the first ever. Trumpour has a home lab, self-financed, that functions as the mobile service hangar for a home-built, liquid-fueled rocket engine. His point: that the political, legal, and financial constraints around Canadian space-ex are rocket fuel for the do-it-yourself crowd.

Rocket Cypress on the launchpad.

There was no shortage of enthusiasm Build Day 2018. Co-captains Hubert Fortier (L) and Robert Chisholm.

Member numbers at the inaugural Spaceport America Cup.

Launch Sequence

Spring 2016, Tent McMurray. All.

As a Propulsion Intern, and Jackson lands a full-time gig as Integration and Test Engineer at SpaceX. Succession planning is suddenly a thing for the two-year-old club. September 2018. Enter Hubert Fortier and Robert Chisholm. Both original members, they are now UBC Rocket’s co-captains. The bar is high – 100 kilometres above sea level, to be exact. That altitude, called the Kármán Line, represents the boundary between Earth’s atmosphere and outer space. The Base 11 Space Challenge, sponsored by National Rocketry League in the US, is offering $1 million to the first student-led university team to cross it before the end of 2021. The countdown is on.

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Member numbers at the inaugural Spaceport America Cup.
It is a growing crowd. There are 22 university rocketry clubs across the country, members of a nascent Canadian Rocketry Consortium (CRC) that is calling on Ottawa for reduced regulations, more launch sites, and greater public exposure. The CRC submitted a few grant applications to the Canadian Space Agency.

The UBC Rocket membership is diverse, but the common denominator is a willingness to work and learn. It’s a growing crowd. There are 22 university rocketry clubs across the country, members of a nascent Canadian Rocketry Consortium (CRC) that is calling on Ottawa for reduced regulations, more launch sites, and greater public exposure. The CRC submitted a few grant applications to the Canadian Space Agency.

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Discussed ways of addressing climate change with University of California President Janet Napolitano. UBC is enthusiastic about the significant collaboration between UBC and institutions in India.

Saw UBC graduate Manu at Pacific Central Station. Congratulated him on move in day.

Advised this amazing Formula-style race car that UBC students built and compete in internationally at Formula SAE competitions.

THROW TICKETS to face at the Thunderbirds Stadium (getting in some practice for homecoming in September!) Photo: Rich Lam

WELCOMED the first students in our new School of Biomedical Engineering.

Gave talk to first year students that focused on Bertha Wilson and Ruth Bader Ginsburg, two women who profoundly changed the world through collaboration.

IMPROVED to see a smart bike share system from Drop Mobility, which provides a fun new way to get around campus and support UBC’s sustainability efforts.

HEARD New York Times best selling author Dr. Michio Kaku speaking at a sold out Chan Centre for the Performing Arts, as part of the UBC Connects Public Lecture Series.

THROWED T-shirts to fans at the Thunderbird Stadium (getting in some practice for homecoming in September). Photo: Rich Lam

NEW video series: Ask Santa! For the first installment, visit trekmagazine.alumni.ubc.ca

Have a burning question for Professor Ono? Send it to trek.magazine@ubc.ca

Met with Dr. Arvindini Aruna, scientific secretary with the government of India, to discuss further exploration of the significant collaboration between UBC and institutions in India.

Greeted some alumni at the BBQ to celebrate move in day.
There is something about space that brings out the giddy enthusiast in even the most serious academics. That thought occurs while sitting at the Robert H. Lee Alumni Centre with Dr. Aaron Byers, Canada Research Chair in Planetary Astronomy and co-founder of the new UBC Outer Space Institute. Byers is equal parts earnest and excitable; he’s a space geek who skipped over the more practical considerations for the more glamorous ones. He founded the new UBC Outer Space Institute in 2016, and since then, it has become a hub for space research and policy. There are sociologists. Outside experts include people such as Paul Meyer from Simon Fraser University, a leading researcher on space law and policy. The institute has partnered with the United Nations Committee on the Peaceful Uses of Outer Space, and Tanya Harrison, director of research at the Arizona State University NeuS Institute. There’s an even private-sector participant, such as Brian Israel, a former US State Department legal advisor who is now with Planetary Resources, Inc.

Per the earlier Hollywood references, the first two research themes are space mining and space debris, which cover both the most promising opportunity and the most immediate threat. Threat: first, since the Russians orbited Sputnik in 1957, humans have launched more than 5,000 satellites into space. These objects exist, wander, re-enter Earth’s atmosphere and burn up or re-enter and scatter, creating a near-Earth orbit debris field that now contains 20,000 pieces of space junk that are large enough to track, roughly 250 to 1,500 in diameter and up. But there are more than 100 million pieces if you count everything bigger than one centimeter. And, as Byers explains, those little pieces do count. Bigger pieces will do more damage, but a piece of space junk that’s big enough to track is also obvious enough to avoid. If the US military issues an average of 21 warnings a day of potential debris collisions, so satellite owners can adjust their trajectory. But the little pieces are much more plentiful, and coming at you at 58,000 kilometers an hour, even a one-centimeter chunk can have a dangerous, perhaps catastrophic, hole in a piece of space infrastructure.

If Byers gets his way – which is to say, if the UBC Outer Space Institute achieves its potential – the good guys will always get there first, anticipating problems, mediating disagreements and establishing a rules-based regime that allows humankind to deploy in space the lessons learned from every colonial calamity that has ever occurred on Earth.

Regulating the Final Frontier

Can humankind cooperate to ensure safety and sustainable development in space? Two optimistic Canada Research Chairs have founded an institute to lead the way.

By Richard Littlemore

The promise here is enormous, especially for space exploration and development. Asteroids are a likely source for water, fuel and other resources that could be crucial to support extra-planetary missions; it would be much easier to harvest these materials in space than on Earth. The US plans to try to blast them in sufficient quantity off the gravitationally stubborn planet Earth. Commercial enterprises are also working to take advantage of these and other resources in space. For example, Planetary Resources, Inc. has attracted investment from the likes of Google executives Larry Page and Eric Schmidt, the former chair of the United Nations Committee on the Peaceful Uses of Outer Space; and Tanya Harrison, director of research at the Arizona State University NeuS Institute. There’s an even private-sector participant, such as Brian Israel, a former US State Department legal advisor who is now with Planetary Resources, Inc.

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Super Sea Siblings
By her own admission, high school home economics teacher Martina Seo, BMus’69, BM’78, is not among the world’s foremost athletes. So, when her brother, Phil Seo, BMus’75, invited her to join him in applying for a spot on CTV’s hit show The Amazing Race Canada, her expectations were low. “Whatever, it’s just an audition tape,” she recalls thinking, “we won’t get on.”

It’s true that Phil, a long-time fan of the series, had previously applied several times without success. But the show had asynchronous filming, and so, starting this year – celebrating everyday Canadian heroes who have given back to their community – seemed like a perfect fit for the Seos. Between them, Phil and Martina have recorded over 12,000 hours of volunteering around the world, including banking manager Phil’s participation in the UBC Sauder School of Business’ Executive Mentorship program.

The show’s producers evidently agreed, selecting the pair from among thousands of applicants. This gave rise to Martina’s first Amazing Race challenge: “I know nothing about this country,” she admits, and was more than a little daunted after studying all five previous seasons. “I was so scared. I didn’t want to get eliminated on the first episode!”

While physical training was important race preparation for the “Super Sea Siblings,” as they called their team, it was balanced with a strong emphasis on strategy. The Seos brought smarts of Canada and, based on their observations from past seasons, began theorizing the challenges they might encounter across the country. Phil, who has a background in logistics and operations, even wrote a course on game theory. All their planning, however, did not fully prepare them for the rigors of the race. “It was literally a thousand times more intense than I thought it was going to be,” says Phil. Martina’s fear of early elimination almost became reality, in the first episode. She was faced with climbing an 80-foot loggers pole in Squamish, BC. After 45 exhausting minutes and more than a few tears, the final stretch seemed all but impossible. “It took me a very long time to do it, and I almost quit,” she says. But with Phil’s encouragement – and lots of motivation from a competitor’s slip of the neighbours pole – Martina reached the top and helped the Super Sea Siblings finish second-to-last, avoiding elimination by a whisker.

That moment, Martina says, was a turning point. “After I was able to do that, I realized that I could do things I didn’t think possible.” The Seos’ never-give-up attitude helped them become fan favourites, and the pair steadily climbed the rankings as the race progressed.

In the span of only a few weeks, their travail took them from BC to the Yukon and back, Indonesia, Ontario, Manitoba, Prince Edward Island, Mexico, and New Brunswick. It was in Fredericton, NB – the penultimate leg of the race – that the Seos finally met their match, ending their run in fourth place.

Despite the disappointment of not making it to the finale, the Seos look back fondly on their experience and would jump at the opportunity to do it again. “It was the best time of my life,” says Martina. “I loved it.” The competitions, she says, have all become friends, sharing an online messaging group to keep in touch. One contestant – Olympian skeleton racer Melissa Hollingsworth – will even be joining Martina as a guest chef in her home economics class.

The civic-minded Seos have already been able to translate their newfound fame into ways to give back, attending meet-and-greets, giving presentations, and holding Amazing Race Canada viewing parties in support of local Vancouver charities. When asked if she encountered any meaningful lessons in her race, Martina offers some of the optimism for which she’s become well-known. “I want my students to know that if I can get to fourth place, the role of memory in recovering identity, the power of continuing therapy, and the

In 1960, Ron Smith to the released his tenth publication, The Ecology, a selection from his more than 750 environmental columns over the past 16 years. Covering a breadth of topics – mostly philosophical in nature, Smith’s writing process lasted 18 months. “I had never watched the show,” she recalls agreeing, selecting the pair from among several times without success. But the show had asynchronous filming, and so, starting this year – celebrating everyday Canadian heroes who have given back to their community – seemed like a perfect fit for the Seos. Between them, Phil and Martina have recorded over 12,000 hours of volunteering around the world, including banking manager Phil’s participation in the UBC Sauder School of Business’ Executive Mentorship program.

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Despite the disappointment of not making it to the finale, the Seos look back fondly on their experience and would jump at the opportunity to do it again. “It was the best time of my life,” says Martina. “I loved it.” The competitions, she says, have all become friends, sharing an online messaging group to keep in touch. One contestant – Olympian skeleton racer Melissa Hollingsworth – will even be joining Martina as a guest chef in her home economics class.

The civic-minded Seos have already been able to translate their newfound fame into ways to give back, attending meet-and-greets, giving presentations, and holding Amazing Race Canada viewing parties in support of local Vancouver charities. When asked if she encountered any meaningful lessons in her race, Martina offers some of the optimism for which she’s become well-known. “I want my students to know that if I can get to fourth place, the role of memory in recovering identity, the power of continuing therapy, and the
Robert H. Lee, BCom '56, LLD'96, wins CCAE Friend of Education Award

UBC’s very own Robert H. Lee, CM, OBC, was presented with the prestigious Friend of Education Award from the Canadian Council for Advancement of Education (CCAE) at a ceremony in Halifax on June 6. This national award recognizes individuals who are committed to education and have made significant contributions to the advancement of education in Canada.

Affectionately known throughout campus as “Mr. UBC,” Lee envisioned and founded the UBC Properties Trust, which helps support the university’s mission through optimization of its lands and investments. His profound impact on the university extends far beyond his tenure as chancellor, and in many other volunteer roles. His passionate advocacy, philanthropy, business leadership, and volunteerism have transformed the university, which will continue to experience the positive outcomes of his work for years to come.

1980s

After the first novel, Full Curl, won the 2018 Arthur Ellis Award for Best First Crime Novel in Canada and was short-listed for the Rakuten Kobo Emerging Writers award in the mystery category, Crime Novel in Canada and was short-listed for the Rakuten Kobo Emerging Writers award in the mystery category, Award for his first novel, Full Curl, Robert H. Lee, BCom’56, LLD’96

Robert H. Lee has given countless hours of service as a member of the UBC Board of Governors, as chancellor, and in many other volunteer roles. His passionate advocacy, philanthropy, business leadership, and volunteerism have transformed the university, which will continue to experience the positive outcomes of his work for years to come.

1990s

Jillian Cooke, BASc’93

Jillian Cooke, BASc’93, recently returned to the practice of municipal engineering. A graduate of the UBC Civil Engineering program, Cooke has worked at Kwantlen Polytechnic University since 2000, where she currently serves as assistant dean of the Faculty of Science and Horticulture. Dr. Peter Englezos led a tour of the “new” building and labs. The engineers’ work allowed the university to expand its programs and services, providing students with access to modern facilities.

Carol and Graham Lee with (L-R) Leslie, Lily, Robert, and AVP, Alumni Relations, benefits director for the University of British Columbia. The couple has been a key supporter of the university, providing support to a wide variety of programs and initiatives.

MINDS AND MOTION

Celebrating the people and history of the UBC School of Kinesiology, it is now available online and in UBC Bookstores. This breathtaking book captures the School’s history of interdisciplinary research and innovation in the study of human movement and its impact on health, society, and quality of life. Purchase today at https://shop.ubcbooks.ubc.ca/p/115937.aspx

David L’Young is your Educated Choice when buying or selling Real Estate.
A Matter of Pride

Alex Sangha

The Governor General of Canada has recently awarded Amar (Aliko) Sangha, BSc’09, with the Meritorious Service Medal (MSM) for founding Sher Vancouver, a not-for-profit society providing assistance to LGBTQ Sikhs, Sher Vancouver gradually expanded to become an umbrella organization for members of the queer South Asian community. As their membership grew, so too did the scope of Sher Vancouver’s initiatives. Among these are the Dosti project (2009), bringing South Asians into local schools to give workshops about coming out; the Out and Proud project (2013), sher.vancouver.org; an online platform to showcase the strength and diversity of the global queer South Asian community; and a 2015 campaign to raise funds in support of an Indian youth studying in Vancouver whose family abandoned him after he came out as gay. Sher Vancouver’s colourful floats have become a crowd favourite of the Vancouver Pride Parade, and many years of volunteer service to the Faculty of Medicine. For his distinguished leadership and significant contributions to the School of Engineering.

Denis Connor, BSc’03, MSc’05, PhD’14

For his leadership, passion, advocacy, and long-standing dedication to the multidisciplinary facets of environment, conservation, and ocean sciences.

Swamy Yeleswaram, PhD’17

For his distinguished leadership and contributions to the Faculty of Pharmaceutical Sciences.

Congratulations to our Alumni Builders

Created in 2017 as a part of alumni UBC’s 100th anniversary, the Alumni Builder Awards recognize a cross section of alumni from all faculties who have contributed to the University and enriched the lives of others. In being so, they have supported alumni UBC’s vision of a global community with shared ambition for a better world and exceptional UBC. We are proud to honour this year’s Alumni Builder Award recipients whose generous contributions have been recognized by their UBC faculty.

Lindsay Alfaro, MSW’17

For her distinguished service within the Faculty of Health and Social Development.

Parn Bains, BSc (Ap)’79

For his mentorship, passion for agriculture and commitment to the excellence and sustainability of the Faculty of Land and Food Systems.

Bruce Blackwell, BSc’84, MSc’89

For his long record of service to the Faculty of Forestry.

Greg Chang, DMD’86

For his distinguished and inspirational community leadership, and tireless advocacy for the Faculty of Dentistry.

Nancy Cho, BSc (Rehab)’82

For her dedication to education and furthering the practice of physiotherapy, and many years of volunteer service to the Faculty of Medicine.

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For his contributions to the School of Kinesiology and his long record of mentorship.

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Andrew Tritos, MSc’85, PhD’17

For his leadership, passion, advocacy, and long-standing dedication to the multidisciplinary facets of environment, conservation, and ocean sciences.

Mandy Dubé

includes articles in the Canadian Journal of Public Health and for 

CBC. Jane Whittingham, MFA’17, is the author of two picture books, both published by Canadian publishing house Pajama Press. (Van One (2017)

follows an imaginative and enthusiastic little girl through her busy day, while A Good Day 

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Originally launched in 2008 as an online support group for LGBTQ Sikhs, Sher Vancouver gradually expanded to become an umbrella organization for members of the queer South Asian community. As their membership grew, so too did the scope of Sher Vancouver’s initiatives. Among these are the Dosti project (2009), bringing South Asians into local schools to give workshops about coming out; the Out and Proud project (2013), sher.vancouver.org; an online platform to showcase the strength and diversity of the global queer South Asian community; and a 2015 campaign to raise funds in support of an Indian youth studying in Vancouver whose family abandoned him after he came out as gay. Sher Vancouver’s colourful floats have become a crowd favourite of the Vancouver Pride Parade, and many years of volunteer service to the Faculty of Medicine. For his distinguished leadership and significant contributions to the School of Engineering.

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Ronald Arison, BA'54/92
On June 5, 2018, Ronald (Ron) Arison passed away peacefully and his spirit will sleep, aged 86. He is loved and survived by his wife Wineva (Sandy). The family announces the passing of Robert Gilliland, born on November 10, 1921, in Toronto, Ont., died on March 15, 2018, in Qualicum Beach.

Robert Gilliland, BA'54, BSc'55, MSc'57
Robert (Bob) Gilliland was born on November 26, 1955, in Toronto General Hospital, to Douglas and Gladys Gilliland. Bob had a younger brother, Doug, and the family grew up in Toronto, Montreal, Calgary, and finally Vancouver. Bob graduated from King Edward High School in 1974, and at UBC earned his BA in Criminology and Psychology (1979), Bachelor of Social Work (1980), and Master of Social Work (1981). He completed his studies in 1987 with a PhD in Psychology from Pacific Western University. He met and married Margaret “Maggie” Gilliland, with whom he travelled and lived in northern BC. In 1958, they moved to Barrief, where their son was born, and from there to Jasper where their daughter was born. Later moves included Saskatoon, Ottawa, and finally Edmonton. Much of Ron’s career was spent with the Federal Public Service. Later he was responsible for the management of federal buildings in western Canada. He finished his career as the project manager for the construction of Canada Place in Edmonton. He finished his career as the project manager for the construction of Canada Place in Edmonton. On the evening of August 14 in his home, Bob passed away peacefully with his family at his side.

Edmund T. (Ted) W. Howard, BS'51
After a long and healthy life, Ted passed away on October 22, 2017, at the age of 86. He was born in Calgary, where he attended Strathcona-Tweedsmuir School and on to the University School in Victoria, BC. Ted attended the UBC College of Forestry, received his BSc'51 from UBC and his master’s in forestry (1958) from the University of Idaho. After graduating from UBC, Ted took positions as a research forester, began teaching, and eventually became the Director of Forestry at BCIT in 1970. Ted retired and did some consulting work in forest fire behaviour for both a forestry college and a private company in South Africa. Ted had a very full and satisfying career teaching, writing, and helping establish Rotke’s Retirement Association, where he held multiple positions through the years; travelling extensively; researching his family history; gardening; and just enjoying his children and grandchildren. John May, Jonathan, Bryden and Jaym, Ted will be greatly missed by all his family.

July 10, 1930 – June 23, 1956
Theo died in Qualicum Beach on June 3, 2018. She was predeceased by her parents, Dena and Norman Gyles. Theo was survived by her husband D. Harry Bell; her children Sandy (Greg Olsen), Mark (Tam Cooper), and Jan (Celine Lavenest). Missing him deeply are grandchildren Jessica Morrison Golosky (Eric Golosky), Amy Morrison (John Levenick). Missing him deeply are grandchildren.

Theo G. Bell-Ingrain, KStP CBE
June 23, 1930 – June 3, 2018
Theo died in Qualicum Beach on June 3, 2018. She was predeceased by her parents, Dena and Norman Gyles. Theo was survived by her husband D. Harry Bell; her children Sandy (Greg Olsen), Mark (Tam Cooper), and Jan (Celine Lavenest). Missing him deeply are grandchildren.

Edward K. Wright, BPharm, RPh
He is greatly missed that we announce the passing of Ted Knight at the age of 92. Ted was survived by Laura, his wife of 60 years; his sons: Brian (Cindy), Alan (Carley), Peter (Maie), and Keith (Lis); his grandchildren Lucy, Carolyn, лучших (Bill), and Christopher, and great grandchildren Ayla and Molly. Ted was loved. She participated in the community by volunteering on fundraising drives for a number of charities. She loved art and, for years, volunteered at the Vancouver Art Gallery Store and subsequently at the store for the UBC Museum of Anthropology. Theo was kind, gracious, and patient, and will be remembered for her gentle, loving nature. A celebration of Theo’s life was held this past summer at Qualicum Beach.

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Thom A. Thom, BSc'57, MEd'71
Gordon passed away on May 21, 2018, in Vancouver, having lived a full and wonderful life. His kindness, sense of humour, and whole-hearted engagement in diverse activities enriched each of our lives. We will be lovingly remembered by his children Kathy (Michele) and Margaret (Laurent); his grandchildren, Aiden, Alex, Tanis, and Max; and his great grandchildren, Aiden, Alex, and Max.

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in memoriam

George Leslie Ross, BMus’67, MMus (Voice)’71

It is with heavy hearts that we announce the sudden passing of George Ross, age 73. An unrepentant advocate for the importance of the arts in society, he had a profound effect on everyone who came into his sphere. His work in the Canadian arts scene and his broad knowledge of artistic disciplines were the delightful makings of what became a very large life. His reach and impact was felt nationally and abroad. More than a great friend, he was kind, gentle, joyful, supportive, patient, very resourceful, and “always there with a smile and a hug”. In the 1970s, George’s summers were spent working as a director, production and stage manager, and coordinator for the Opera program at the Banff Centre; his winters included production and stage manager, and coordinator for the CBC Vancouver, Edmonton, Calgary, Seattle, Portland, and Winnipeg. In 1978, George became manager of Theatre Winnipeg. In 1978, George became manager of Theatre Society at the Banff Centre, retiring in 2004 from the position of Associate Director, Operations. Not one to fully leave his work behind, George stayed active with Calgary Opera chorus and other theatre companies in Calgary, and remained a loyal patron of the arts.

Kate E. McInertiff, MA, PhD

Kate McInertiff of Ottawa, age 49, died peacefully at home on July 23, 2018, following a three-year battle with colon cancer. Born in Seattle, Washington, in 1969, Kate graduated with a bachelor’s degree from the University of Washington and a master’s and PhD from UBC. After serving as an instructor at the American University of Cairo (Egypt) and assistant professor at McMaster University, she moved to the University of Ottawa and in 2007 became a Canadian citizen. Kate subsequently worked at Peacebuild, the Canadian Feminist Alliance for International Action, and Amnesty International, then served for five years as a senior researcher at the Canadian Centre for Policy Alternatives (CCPA). While at CCPA, she served on the United Nations Advisory Group on Inequalities and the Coordinating Committee of Social Watch. Reflecting her lifelong passion for women’s rights and gender equality, Kate achieved national acclaim for researching, writing, and producing CCPA’s annual report, The Best and Worst Places to be a Woman in Canada (policyalternatives.ca/bestworst2017) her work was recently summarized in a posthumous profile in Maclean’s. In August, Kate posthumously received the Karen Takacs Award for Women’s Leadership in International Development, and in November she was recognized by the Women’s Executive Network as one of Canada’s Top 100™ Women.

Nora Patton, MFA’76

Nora Ann Patton of Kenora, Ontario, passed away at the Lake of the Woods District Hospital on Monday, March 26, 2018. Online condolences may be emailed to ahearn@alexhouse.net.

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• Meeting Room capacity for up to 100 ppl
• Accommodations for up to 84 ppl
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• 2.5 acre property; 1/2 a block from the beach

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The Rev. Canon Douglas E. Williams, BA’71

October 9, 1938 – December 19, 2017

The Rev. Canon Douglas Elliott Williams died peacefully, in his 80th year, on December 19, 2017, in Vancouver, BC. The only son of Keith S. and Elizabeth D. Williams of Omak, California, he was born October 9, 1938, in San Bernadino, California.

He is predeceased by his eldest son, Zephyr Starwater Grayston (Gregory Donald (Williams) Williams (Surajit Bose) of Palo Alto, California, and his brother-in-law, The Rev. Dr. Donald E. Grayston. He is survived by his wife of 54 years, Helen M. (Grayston) Williams; daughters Catherine A. Hall (Anthony) of Greensboro, CT, and Melody V. Williams of Stockton, CA; and great-grandchildren, Tristan and Milani Ridgeway. He was educated at the University of California, Los Angeles, in Philosophy; the Cuddesdon Theological College, Oxfordshire, UK; the General Theological Seminary, New York City; and most recently at UBC for a degree in classics (Latin) and medieval studies. As an Anglican/Episcopal priest, Douglas served in the Diocese of Los Angeles, Diocese of California, and Diocese of El Camino Real, retiring as Canon-Presbyter of Trinity Cathedral, San José, CA, before retiring to Vancouver in 2010. In the Diocese of New Westminster he served as honorary assistant in the parishes of Christ Church Cathedral, St. James’, and St. Anselm’s.

Donations in memory of Douglas may be made to the Vestry Fund of Christ Church Cathedral, 650 Burrard Street, Vancouver, BC, V6C 2L1.

TREK • 51

Every donor is unique. Every gift makes a difference.
Explore your giving options with our professional gift planning team.
www.giftandestateplanning.ubc.ca or 604.822.5373
What is your most prized possession? My home, which is also my sanctuary. Who was your childhood hero? My mom and dad. Describe the place you most like to spend time at. A dinner party with interesting and interesting people.

What was the last thing you read? Today's New York Times.

What or who makes you laugh out loud? Whoop, dirty comedies.

What's the most important lesson you've ever learned? Once a liar, always a liar. They said, and I've lived by it. People need to really think before they speak or send that email, because it will mark you for life.

What would be the title of your autobiography? My Life with Bloopers.

What would you like your epitaph to read? A beloved wife and mother.

What is your favorite thing about the place you live in? I get to see them in Toronto.

What is your favorite childhood toy? A machine to cure every disease.

What is your favorite book? The Sixties, because it was such an era of change with the civil rights movements.

What is your favorite music? Witty, dark comedies.

What is your favorite movie? Childbirth and dying.

What or who makes you laugh? Some stories are best left untold.

What are you afraid of? Heart palpitations – if something goes technically wrong and your story doesn't make its slot, and you're flying by the seat of your pants.

What is your favorite color? Black.

What is your favorite food? A Chanel purse. It was indulgent on my part but I love classic pieces that last decades.

Name the skill or talent you would most like to have? I wish I could draw or paint.

What is the best advice you have been given? I am constantly in awe of people who have this amazing talent. Artists are an important part of our society.

Which three pieces of music would you request at your funeral? Beethoven's “Fur Elise,” David Bowie's “Golden Years,” and Marvin Gaye's “Mercy Mercy Me.”

Which famous person (living or dead) do you most admire? My parents.

Whom do you most admire (living or dead)? I looked a bit like Isabella Rossellini. I don't think I look like any of them, but I couldn't be more flattered.

How do you like to spend your weekends? Lunch with my best friends when I get to see them in Toronto.

What was your nickname at school? I didn't have a nickname until I got into the news industry. A colleague started calling me Giller back in 1997 and it has stuck ever since.

A colleague once told me that I looked like the women in Mapplethorpe paintings. When I was older, I was told I looked a bit like Isabella Rossellini. I don't think I look like any of them, but I couldn't be more flattered.

What is your pet peeve? Stupidity.

What is your most prized possession? A Chanel purse. It was indulgent on my part but I love classic pieces that last decades.

What is your favorite thing about the place you live in? I get to see them in Toronto.

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What are you afraid of? Heart palpitations – if something goes technically wrong and your story doesn't make its slot, and you're flying by the seat of your pants.

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