

Faculty of Applied Health Sciences

ALUMNI INSIDER

Vol. 6, No. 1, Spring 2021



GAME CHANGER

Fitriya Mohamed
is changing the
face of basketball



The Class of 2021 **CARES**

You are invited to rally around the memory of an Applied Health Sciences student who would have graduated this June with a Bachelor of Science (BSc) in Medical Sciences.

The Class of 2021 is collecting donations for the **Yosif Al-Hasnawi Memorial Bursary**.

In December 2017, Al-Hasnawi was fatally shot while intervening on behalf of a stranger being accosted on the street in Hamilton, Ontario. He was an exceptional young man with aspirations of becoming a doctor.

His story has been an inspiration to the community and has sparked conversations promoting racial justice and equity on campus.

Learn more or donate at

brocku.ca/alumni/class-giving



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DEAN'S MESSAGE



Faculty of Applied Health Sciences alumni and friends,

I am delighted to again connect with you through the *Alumni Insider* magazine and to update you with some of the stories and events that have taken place recently in the Faculty of Applied Health Sciences.

Although it has been a year like no other in recent memory, the Applied Health Sciences family of faculty, staff and students have persevered and even thrived. As this issue illustrates, we have made innovative adaptations to our teaching methods, taken significant strides in new research developments and advanced our worldwide reputation. Our students have also risen to prominence and made significant contributions in a number of important areas.

As a Faculty, we will continue to produce students who will become leaders in their fields, and we will remain committed to making important advances in research and education. With our important connections to community partners, Applied Health Sciences will address the challenges of the future with innovative solutions to advance the health and well-being of our communities and to build a better and more inclusive future for all. Please stay connected with us on this journey.

Best wishes and stay well,

Peter Tiidus

Dean, Faculty of Applied Health Sciences

ALUMNI INSIDER
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Brock University Assistant Professor of Kinesiology Val Fajardo has been named Canada Research Chair in Tissue Remodelling and Plasticity throughout the Lifespan.

Brock gains Canada Research Chair in Tissue Remodelling and Plasticity

Assistant Professor of Kinesiology Val Fajardo has been named Brock University's newest Canada Research Chair in Tissue Remodelling and Plasticity throughout the Lifespan.

Fajardo studies how muscles change in form and function over the course of a lifetime.

"We're trying to optimize muscle health and physiology to improve whole body health under conditions of aging, spaceflight, obesity, Duchenne muscular dystrophy and heart disease," he says.

Tissue plasticity refers to long-term changes to the function and appearance of cells. This process in turn fuels muscle plasticity, in which muscles modify their structures and functions in response to environmental demands.

Muscles are remodelled by favourable physiological changes arising from things like exercise and good nutrition, which enhance muscle function. With aerobic exercise training, for example, muscles will alter their metabolism allowing them to perform better and fatigue less.

Muscles are also remodelled through pathological or unfavourable changes brought about by disease, aging and physical inactivity, which can impair muscle and whole-body health.

"Understanding what causes the good changes in muscle is important, because then maybe we can tap into that when things go bad," says Fajardo.

Fajardo says he feels "honoured" and "extremely lucky" to be named a Canada Research Chair.

"I am here in large part because of the training I received from Brock University," he says.

Fajardo completed his undergraduate degree in 2009 and master's degree in 2012 at Brock under the supervision of Professor of Health Sciences, Paul LeBlanc before completing his PhD at the University of Waterloo.

Brock researcher creates lab-in-a-box for students' home learning

When a pandemic lockdown stops you from going to the lab, let the lab come to you.

That's what happened with students in Ana Sanchez's Tropical Parasites of Humans and Animals undergraduate course. They received a special package in the mail during their Winter Term course this spring: a box with supplies that enabled them to simulate how to prepare samples for examination under a microscope.

Soon after Ontario's lockdown came into effect, Sanchez and two of her graduate students came up with the idea of creating a lab package that could be sent to students' homes.

The trio decided upon three experiments, gathered the materials needed for each, bundled

them up into colour-coded baggies, and then purchased inexpensive plastic fishing-tackle boxes.

Sanchez included detailed instructions on how to carry out the assignments, a personal note of encouragement for each student and a lab coat.

The lab-in-a-box and home experiments simulated conditions in resource-challenged countries such as Honduras, where Sanchez studies parasitological diseases — soil-transmitted helminths, tapeworms, pediculosis and some intestinal apicomplexa — in children, among other research interests.

Supplies in the kit were fairly common, not noxious to the environment and could all be disposed of safely.



Professor of Health Sciences Ana Sanchez holds up a kit that she and her graduate students assembled for students in her fourth-year Tropical Parasites of Humans and Animals undergraduate course.

Brock earns Top 100 world ranking for sport science programs

The Sport Management and Kinesiology programs at Brock University have developed a reputation as being among the best in the country.

Now, that reputation has reached the international level.

In the QS University World Rankings released earlier this year, Brock University was ranked in the Top 100 in the Sports Science category, which covers the programs and research of its Departments of Kinesiology and Sport Management.

The rankings are not broken down further than Brock being in the of the Top 51 to 100 of all schools around the world, ranking it alongside the University of Waterloo and Cornell, and ahead of Queen's, which finished in the Top 101 to 120 class.

"The recognition as being ranked among the Top 100 world programs provides tangible evidence of this quality," said Faculty of Applied Health Sciences Dean Peter Tiidus. "The faculty and staff of these programs deserve the credit for their outstanding research and teaching which has resulted in this recognition.

He said the outstanding reputation of the Kinesiology and Sport Management programs is also closely tied to the strong network of alumni, which includes national and international leaders in their respective fields.

"They provide future Brock graduates with role models and mentors to advance their career development," he said. "The inclusion of Brock's Sport Management and Kinesiology programs among the best in Canada and the world is a testament to the reputation these programs have built over the decades."

The QS University World Rankings compare up to 550 institutions around the world in each category and rank them based on categories such as academic reputation, employer reputation and research citations per paper.

"The QS rankings are a significant international exercise, and one to which the academic world pays attention," said Brock Provost and Vice-President, Academic Lynn Wells. "Brock's success in this year's rankings is well-deserved recognition for all of the hard work that Dean Peter Tiidus and all faculty, staff and students in the Faculty of Applied Health Sciences put every day into growing and developing our sport science programs."



FACULTY NEWS

FAHS Student Association gains momentum despite pandemic challenges

The Faculty of Applied Health Sciences Student Association (FAHSSA) has adapted its professional development and networking events to ensure undergraduate students have the best possible online experiences despite limitations and delays created by the COVID-19 pandemic.

Working closely with FAHS Dean Peter Tiidus and Associate Dean, Teaching and Undergraduate Studies Kirsty Spence, some of the 2020-21 academic year's successes included the expansion of a Faculty-wide mentorship program, an inter-departmental student case competition and leadership roles in online incoming student orientation and recruitment events via Instagram.

"Our Faculty has some exceptional students willing to go over and above for the benefit of collective learning through experiential education," said Tiidus. "The positive outcomes of these events have laid the groundwork for future opportunities and I am pleased that several of our alumni dedicated time to the professional development of our students, especially during these complicated circumstances."

Another key area that has seen much growth is mentorship.

Originally started as separate departmental programs in 2017, the FAHS Mentorship program was launched Faculty-wide the following



Faculty of Applied Health Sciences Student Association President Aaron Wexler and Vice-President Lisa Mochrie are working to ensure undergraduate students continue to stay engaged despite pandemic challenges.

year with the intention of pooling existing resources to expand student opportunities for more professional development and networking opportunities.

The positive response to this initiative led to the need for a more formalized organizational structure, which led to the FAHS Student Association being created in January 2019.

FAHSSA recently established the Brock-McMaster Collaborative Medical School Mentorship program, through which aspiring medical students receive mentorship from those enrolled at McMaster's Niagara Regional Campus of the Michael G. DeGroot School of Medicine — located on Brock's main campus.

Additionally, the student association played a large role in establishing the FAHS Graduate Studies Mentorship Program, where fourth-year undergraduate students looking to pursue a master's degree and first-year master's students are mentored by second-year master's students and PhD students.

Profs recognized for research and creative activity

A pair of Faculty of Applied Health Sciences professors have received awards from Brock University for their work.

For her research on metabolic diseases and late onset of Alzheimer's disease, Assistant Professor of Health Sciences Rebecca MacPherson (PhD '14) has been named Brock's inaugural recipient of the Award for Early Career Research and Creative Activity.

Bareket Falk, a Professor of Kinesiology who has spent three decades researching pediatric exercise physiology, has been named the 2021 recipient of the University's Award for Distinguished Research and Creative Activity.

Both honours come with financial awards and are meant to recognize faculty who are demonstrating research excellence.

"I am very pleased to see Dr. MacPherson's outstanding and important work being

recognized with this inaugural award," said Vice-President, Research Tim Kenyon. "Her research impresses upon us the importance of diet and exercise in preventing late onset Alzheimer's disease and, indeed, for a healthy life overall.

Falk, meanwhile, has focused her work on children's responses to exercise and the physiological effects that physical training has on healthy children and those living with chronic conditions.

"Dr. Falk has given us important insights into how children's muscles function and the impact on children's growth, bone development, maturation and training," said Kenyon. "Understanding children's physical development has important implications for our expectations of their performance and how best to foster their growth," he says.

Falk said she is "humbled and excited" about receiving the award.



Rebecca MacPherson, Assistant Professor of Health Sciences



Bareket Falk, Professor of Kinesiology

ALUMNI FEATURE

Horizon Scholarship winner reflects on life-changing move to Canada

By LAURYN CARRICK

The date is ingrained in Sara Madanat's mind: March 15, 2006.

That was the day her parents told her their immigration application had been approved and their family was moving to Canada.

The whirlwind days that followed saw Madanat, her parents and brother pack their entire lives into eight suitcases to begin the two-day journey from Jordan to their new home in Ontario.

Now a Brock Applied Health Sciences master's student, Madanat says the main reason her parents immigrated was to provide their children with better access to education.

As one of 20 inaugural winners of Brock's Horizon Graduate Student Scholarship, she's thankful for their brave decision.

After elementary and high school, she studied Kinesiology at McMaster University. When it came time to pick a program to pursue her master's degree, Madanat knew she was interested in Brock.

She was accepted into the master's program and paired with supervisor Kimberley Gammage. Under Gammage's leadership, Madanat undertook a research project exploring the role of mental health, specifically body image and depression, on cardiovascular disease in a cardiac rehabilitation setting.

Madanat seemed a natural fit for Brock's Horizon Graduate Student Scholarship, a fund that will provide \$1 million to high-achieving graduate students from Black, Indigenous, People of Colour (BIPOC) and other under-represented groups over the next 10 years.

Twenty students from research-based programs will be chosen each year to receive a one-time award of \$5,000. The scholarship is intended to help Brock attract top researchers and students from various fields while building a diverse and inclusive University community.

"I had always been hesitant to apply for scholarships as I never felt like I would be good enough to win one," Madanat says. "When I



Sara Madanat, a master's student in Applied Health Sciences, is one of the first recipients of Brock's Horizon Graduate Student Scholarship.

saw the Horizon Scholarship advertised, I felt, for the first time, it was made for me. To have that feeling confirmed by being selected as a recipient has been a huge confidence booster."

Madanat says her experience at Brock has been exceptional. She has always felt welcomed and respected, but acknowledges that may not be the case for all minority students.

"Brock has shown a commitment to equality on its campus," she says. "For

example, endorsing the Dimensions: Equity, Diversity and Inclusion Charter of Canada, is a great step in ensuring action is going to be taken and the Horizon Scholarship is a great example of this action being set in motion.

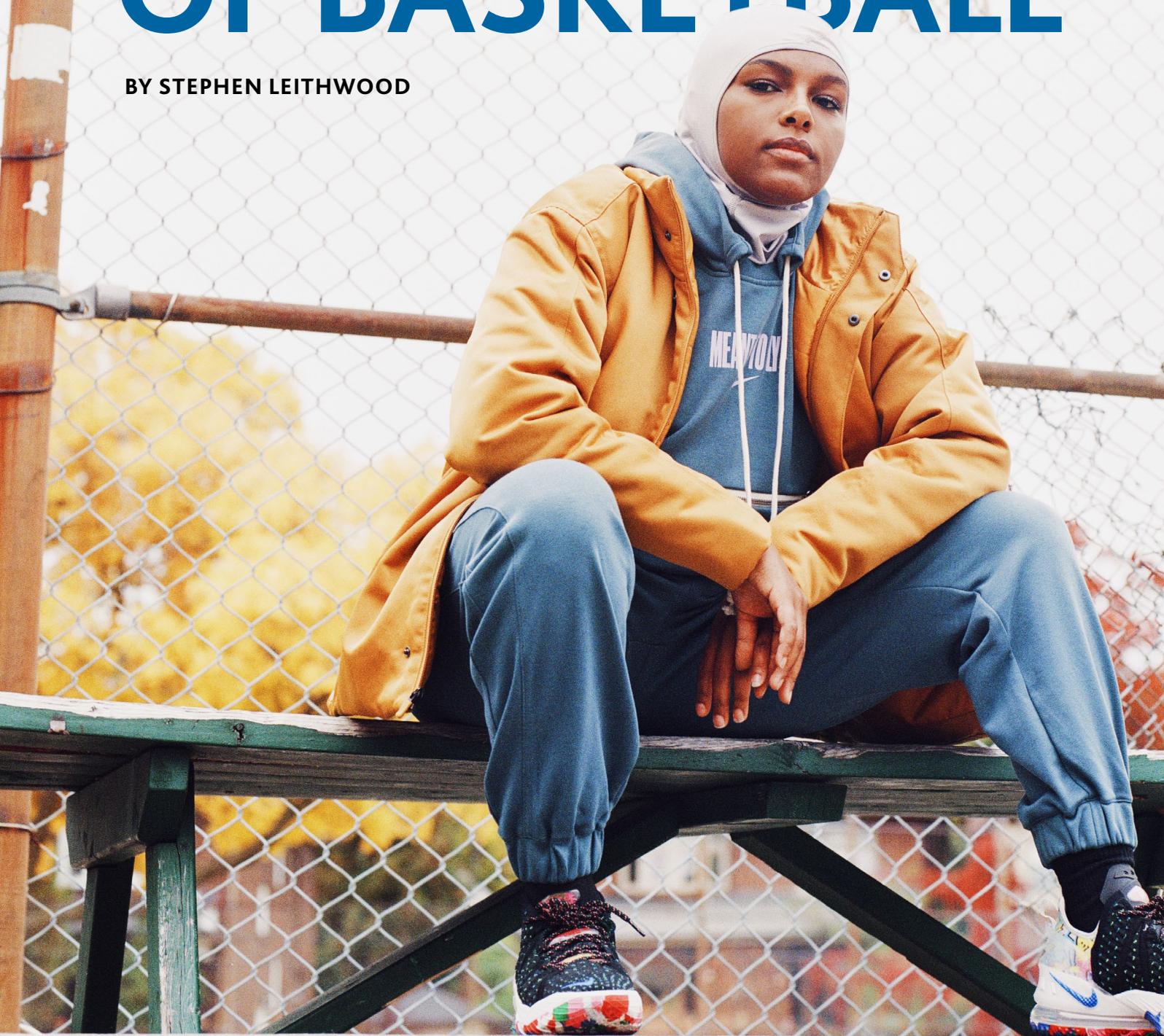
"I chose Brock because the University eagerly addresses and includes minority populations. For me, it was a great decision."

Madanat defended her master's thesis in the spring and will continue at Brock in the fall as a PhD student in Applied Health Sciences.

HOW A BROCK SPMA GRAD IS

CHANGING THE FACE OF BASKETBALL

BY STEPHEN LEITHWOOD





W **HENEVER** you see a basketball player wearing a hijab, you may be reminded of how a Brock University master's student is using the power of sport to empower women and her community.

Fitriya Mohamed (BSM '19), a Master of Arts in Sport Management student, has become a gamechanger for women in the Muslim community.

She is living proof of what is at the heart of her thesis research, which focuses on hijab-wearing Muslim female athletes leading change in the sports community, in the Muslim community, and how that is leading to societal change.

In April, Mohamed was one of 10 students to earn the President's Surgite Award, one of Brock's most prestigious honours.

The award came on the heels of being selected as one of 20 students to earn the first Brock Horizon Graduate Student Scholarship, a fund aimed at high-achieving graduate students from Black, Indigenous, People of Colour (BIPOC) and other under-represented groups.

Her activism for Muslim women did not go unnoticed when the Toronto Star featured her as one of its Changemakers — inspiring individuals who are improving the lives of Canadians through their efforts.

After becoming an active member of the Hijabi Ballers, a group that seeks to increase participation of Muslim girls and women in sport in the Greater Toronto Area, she was the highlight athlete of the Toronto Raptors' historic product launch of the Nike Pro Hijab in 2019. It was the first time an NBA team, or any sport league, offered an athletic hijab for Muslim athletes.

Her story would later become the feature in another Nike campaign: You can't stop our voice.

Mohamed is also the founder of the Muslim Women's Summer Basketball League (MWSBL), a non-profit, inclusive community project dedicated to bringing Muslim women together through sport with a vision of sisterhood and mentorship.

"The most rewarding thing about my work is how everything connects, from the basketball league I founded to my activism work for Muslim women in sports," said Mohamed. "Knowing my work is creating space for women in sport and that I am inspiring the next generation of athletes is truly rewarding in so many ways."

The success hasn't come without its challenges as she carves out her path as a Black Muslim woman in North America.

Born in Ethiopia, Mohamed is the first generation of her family to graduate from university.

While playing intramural sports as a young athlete, Mohamed found she was often the only Black, Muslim or hijab-wearing woman on the basketball court.

"Being a Muslim woman is just another hurdle because now you're being challenged by the dominant societal beliefs about your own religious beliefs," she said. "There's

a stigma that sometimes comes with a hijab-wearing athlete. It's our choice. People sometimes challenge us with false information about our religious choice, for instance, with the hijab because they don't have the power to make us take it off."

There was a short time between Mohamed's Raptors Nike Pro Hijab launch and her master's research when she wrestled with impostor syndrome, a psychological effect of self-doubt.

Much like how she felt growing up on the basketball court, Mohamed suddenly felt alone in the world of academia on the brink of beginning her master's. There was a newfound

pressure as to why she had to succeed.

"I was feeling unqualified in the academic world," she said. "Being a first-generation student from my family at the graduate level and not seeing others that looked like me, especially BIPOC women, definitely played a role as to why I felt like I did not belong."

Mohamed restored her confidence with help from her support group and a life-changing conversation with Kirsty Spence, Associate Dean, Teaching and Undergraduate Studies and Associate Professor of Sport Management at Brock.

"I honestly couldn't believe that conversation with her," said Mohamed. "The crazy thing was, I didn't believe I was capable of pursuing a master's, and this teacher of mine was telling me she believed in me and she was willing to supervise me. I hope she still sees in me what she saw before becoming my supervisor. I thank her for being another woman who helped me get to where I am today."

In February 2019, Mohamed applied to begin her master's research and approached Spence about working together.

Mohamed's thesis research would focus on hijab-wearing Muslim female athletes leading change in the sports landscape, society and the Muslim community.

"This subject was not typically my research area, but Fitriya wanted to work with me, and I wanted to work with her," said Spence. "We just connected, and some important work can come about when I can help a student look at a topic through a leadership lens."

Spence recognized Mohamed's work ethic from Day 1. She first noticed Mohamed sitting in the front row during Spence's Sport Management lectures on sport industry sectors.

"I love working with students who want it that badly," said Spence. "I remember her sitting, literally, front and centre of my class. Even though English wasn't originally her first language, given her work ethic and attitude, that wasn't going to stop her from pursuing her educational dreams."

The Hijabi Ballers met with the Toronto Raptors during Game 3 of the conference finals of their championship run. Months after their captivating playoff campaign, the Raptors released a line of team-branded Nike Pro hijabs, and aired a television commercial featuring Mohamed and the Ballers.

"If you don't create a platform for yourself,



the opportunity to be recognized won't be there," said Mohamed. "I grew up in Toronto, and thank God because it's so diverse, so I didn't feel excluded. Nobody cared if I wanted to wear my hijab or if I couldn't eat something due to my religious beliefs, but there were a few hijab-wearing athletes who had so many challenges."

The Hijabi Ballers held a community conference which Mohamed was a part of and included workshops with details of messages inside the Quran.

"The community conference opened my mind about a potential research on Muslim female athletes," she said. "It made me realize what my purpose is."

Her research thesis would become much more than schoolwork.

"There's this belief in the Muslim community that women shouldn't be in sport," she said. "The majority don't focus on the fact that the religion of Islam encourages all Muslims to be physically fit regardless of their gender."

Mohamed said she heard from the public how empowering the commercial was; not just as minority community members, but as women.

"In Sport Management, to be thrust into this marketing campaign at the upper echelon of commercial sport is amazing," said Spence. "But really, she's just doing what she loves doing. She loves basketball."

The love of the game started for Mohamed when she arrived in Canada at the age of 10. She entered Grade 6 at a Toronto elementary school, where she recalls her first memory of basketball.

"I remember my gym teacher introducing the sport to the class and being very excited to dribble the ball. Once I did, I did not want to stop dribbling," said Mohamed. "From that moment on, I wanted to be involved in basketball because the sport had a feeling of being welcoming and safe."

Basketball was a positive part of life for Mohamed as she was around a diverse group



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**THERE'S A STIGMA
THAT SOMETIMES
COMES WITH A HIJAB-
WEARING ATHLETE.
IT'S OUR CHOICE.**

FITRIYA MOHAMED

of girls in a healthy competitive environment with an element of sisterhood.

At home, among four siblings, school was strictly viewed as an opportunity for reaching goals.

"Coming from an African household, athletics weren't going to take you anywhere. Academics were everything," she said. "My mother only knew the traditional careers."

By the end of her time in the Toronto District School Board, Mohamed was named

Female Athlete of the Year of her high school. She started to bask in the diversity of the sport she loved.

"It was one of those things where, although I didn't see other individuals that looked like me, in terms of my Islamic identity, the girls that I was on the team with were from diverse backgrounds, from their race, ethnicity, culture and religion," she said. "Regardless of where we came from, the sport of basketball bringing us together to create a sisterhood was honestly beautiful. My teammates made me love the sport even more because of the relationship we created on and off the court, which I am so grateful for."

At Brock University, Mohamed saw an opportunity to combine her drive for academics with sports admiration by pursuing a Sport Management degree.

"My mother wasn't supportive of my decision to choose Sport Management, but I felt like what I was doing wasn't wrong. I was confident in my decision," she said. "Eventually, she accepted it, but she still didn't understand what my program was."

Among all the important people in her life, Mohamed's mother is at the top of her list of influencers.

"My mother had to flee from Ethiopia due to the condition the country was in at the time to provide a better life for myself and my siblings," said Mohamed. "As a single mother raising five children, I would say she is where I get my strength and voice from to advocate for my community."

That courage will have a lasting effect on Sport Management at Brock, said Spence.

"To see a graduate student like Fitriya flourish is just amazing. I'm excited about our program becoming so diverse and more People of Colour being in the program," she said. "We still have an 80 per cent male to 20 per cent female ratio, but if you look at the makeup of our students, we're more diverse than ever. I have so much to learn from her, and I see her as having so much to offer to so many people."

FACULTY FOCUS

Karyn Taplay aims to see care through the eyes of patients

By MARYANNE ST. DENIS

The elevator's signature 'ding' was their cue.

When the doors swung open, the nurses on the other end never knew what to expect.

Each day was different in the high-volume labour and delivery ward where Karyn Taplay worked. Only a few kilometres from the U.S.-Mexico border, the hospital in McAllen, Texas, attracted women from all backgrounds looking for a safe place to welcome new life into the world.

"It was a great training ground," says Taplay, now an Associate Professor of Nursing at Brock University. "You never knew what kind of patients you'd see, the stories you'd hear or what their experiences were."

It was her time in the organized chaos of the ward that taught Taplay every patient has a story — a message that can so easily be lost in the rush of an emergency.

She now works to teach the next generation of nurses that front-line health-care workers, in so many ways, can have an impact on the lives of their patients.

Taplay knew from her high school days that nursing was in her future.

"I really liked connecting with people," she says while reflecting on a senior-year nursing co-op that helped to solidify her path.

After graduation, she went on to the University of Toronto with plans to work

in a labour and delivery unit somewhere in that bustling metropolis upon completing her studies.

"I had it all mapped out," Taplay says, "but then the nursing surplus hit."

An abundance of nurses meant no local job prospects and the Hamilton native had to begin looking at other options. She landed a full-time position in labour and delivery at a hospital in Texas, where she moved with her

husband Jeff two days after they married.

Taplay thrived in the fast-paced hospital where she worked, which saw about 600 deliveries each month.

"We were running ragged delivering babies. It was fun, it was crazy, and I loved it," she says.

But even while working in a rewarding career she was passionate about, Taplay couldn't help but feel as though something was missing. To help fill the void, she began orienting new





Brock Associate Professor of Nursing Karyn Taplay (centre) has been using simulation to teach the next generation of nurses.

staff as well as students from the University of Texas-Pan American (now University of Texas Rio Grande Valley) who entered the hospital on clinical placements.

Taplay was encouraged by a university faculty member to pursue teaching, and she enrolled in a master's program. She was then quickly hired as a full-time faculty member at University of Texas-Pan American.

In addition to teaching the state's future nurses, Taplay continued to work part time in different areas of nursing.

"I was always more focused on areas where I could be one-on-one with my clients and really kind of go through their experience with them," she says. "I was fascinated by their experience and how nursing care and the hospital system impacted them. When I look back now, I think that was a big driving factor as to where I'm at now."

Taplay and her husband built successful careers and had two children in Texas before ultimately moving back to Ontario 13 years after they arrived.

It was back in Canada that Taplay set her sights on working at Brock.

In 2007, she was offered a part-time clinical instructor position before later getting hired on as a full-time faculty member. This also led to her return to school to obtain her PhD in Nursing.

Both her research and teaching have since focused on integrating simulation into nursing.

"I find simulation fascinating," she says. "It keeps me going back to my roots, always wanting to know what the patient's experience is."

To that end, Taplay has developed a spyglass methodology that sees her students participating in nursing scenarios with a simulated patient — one of Brock's High-Fidelity Simulation Mannequins — wearing glasses that record audio and video from the patient's perspective.

The reflective practice tool allows students to see first-hand the care they've provided, including how they looked and sounded to their patient.

"Students watch the video of themselves, they can hear their voice, intonation and cadence, and think about their word choice," Taplay says. "They can really evaluate the care they provided."

The only way to truly have client-centred care is to incorporate the patient's experience into the reflective practice, she says. To further enhance this learning method, she hopes to see simulation evolve to include additional senses down the road.

Taplay has been working on a research project with Niagara Health that introduces the spyglass methodology into the active

patient experience. As of July 1, she will become Brock's Department of Nursing Chair.

Taplay often shares her experiences with her students, hoping to inspire them to "look for the excitement, the stories and the narratives in nursing themselves."

"I think it's really the connection to the patient that keeps you going in this profession," she says.

Over her decades-long career, Taplay has had patients and patient experiences that she will carry with her forever.

"They've become part of who I am," she says. "Having the privilege of caring for people when they're in labour and they're bringing new life into this world has humbled me and allowed me to really be the person I am now."

She hopes to encourage her students to embrace the uniqueness of each patient encounter.

"While they're there to provide care to somebody, they actually have as much if not more to learn from that patient than the other way around," she says.

"I want them to understand they may just enter into a patient's narrative for one day, maybe only a couple of hours, but they have the ability to change that person's life. Being open to those stories is probably one of the most rewarding and humbling things they can do."



A Brock University research team is examining the connection between exposure to traumatic events in childhood and cardiovascular diseases that show up decades later.

RESEARCH FEATURE

Brock research team studying link between childhood abuse and adult heart disease

By CATHY MAJTENYI

A Brock University research team is examining the connection between exposure to traumatic events in childhood and cardiovascular diseases that show up decades later.

"Our project as a whole is based around the premise that experiencing different childhood adversities such as maltreatment, abuse and severe household dysfunction is associated with higher rates of cardiovascular disease, cancers and different chronic conditions throughout the lifespan," said Health Biosciences PhD student Kylie Dempster.

Under the supervision of Professors of Health Sciences Deborah O'Leary and Terrance Wade, Dempster is examining how childhood dysfunction affects cardiovascular development into adulthood through a model called biological embedding.

"Biological embedding is the prevailing theory by which chronic diseases become imprinted in individuals following childhood adversity, mainly by changing the body's stress response," said Dempster, whose research is being funded by the Canadian Institutes of Health Research.

This process generates a "cascading effect that generally leads towards higher resting inflammation levels," she said. "We are investigating how the effects of childhood adversity and these biological embedding processes influence changes in arterial stiffness, blood

pressure regulation, and heart size and function from childhood to young adulthood."

Dempster is examining these impacts on young adults through the team's Niagara Longitudinal Heart Study. The goal of the study is to follow 564 children who were tested from 2007 to 2012 for cardiovascular health measures including blood pressure, heart rate, left ventricular structure and function, and stiffness of large arteries.

Other information gathered from the children included biological, lifestyle, behavioural and psychosocial measures.

In 2017, the Brock research team called back participants from earlier studies, who now are in their early to mid-20s, to undergo lab tests gathering similar information.

"Now the focus has shifted to looking at how childhood adversity exposures have influenced their cardiovascular development during these years and how their cardiovascular health has changed because of it," said Dempster.

So far, around half of the original participants have been re-examined.

Dempster hopes the research will raise awareness about the long-term impacts of child abuse, neglect and family dysfunction that will result in earlier interventions from child-care workers, physicians and pediatricians.

ATHLETE SPOTLIGHT

Female empowerment drives Brock international student's Olympic ambitions

By **STEPHEN LEITHWOOD**

Preparing for her second Olympic Games, Aminat Adeniyi's sights are set on more than just the coveted gold.

While the 27-year-old wrestler and Brock international student is tirelessly training to win a medal for her country of Nigeria, she's also making strides on a path to empower female athletes in the sport.

The Master of Arts student with a focus on Sport Management has dreams of using her degree to give back to and grow women's wrestling in Nigeria.

"Nigeria is currently a developing country and has a lot of room to improve its quality in wrestling," said Adeniyi, who is completing her studies remotely from the West African nation. "Courses like sports science or sport management, which are important in guiding and improving sporting activities in my country, are not offered in most Nigerian universities. I am determined to excel as a wrestler, but my fundamental goal is to contribute my own quota of acquired experience to the development of women's wrestling in Nigeria."

Since 2009, Adeniyi has been the reigning national champion in Nigerian wrestling — a historic streak in her country. She has captured a substantial number of medals. Her highlights include gold-medal victories at the Commonwealth Games in 2014 and 2018, four gold medals at the Senior African Wrestling Championships between 2014-18 and a pair of golds at the African Games ('15 and '19).

Adeniyi stepped onto the biggest wrestling stage in the world when she competed in the 2016 Summer Olympics in Rio. She has been motivated to return after missing out on a medal.

"My coach said, 'you are going to try one more time and put in all your effort. I am certain you can medal at the next Olympics,'" said Adeniyi. "With his conviction I agreed to dedicate another four years. I will be competing by God's grace to punch my ticket to Tokyo 2021."

Adeniyi's triumphs are equally impressive off the wrestling mat.

The 27-year-old speaks three languages: English, Igbo (southeastern Nigerian) and Yoruba (southwestern Nigerian). She earned her first degree in Political Science from Adekunle Ajasin University in 2012. Two years later, she was nationally recognized for her athletic achievements and was named a Member of the Order of the Niger by former President Goodluck Jonathan.

TOP:
Aminat Adeniyi won a gold medal in the women's freestyle 62kg division at the 2018 Commonwealth Games in Gold Coast Queensland. (Photo courtesy of Aminat Adeniyi)

BOTTOM:
Women's freestyle wrestler Aminat Adeniyi (right) qualified for her second Olympic Games. (Photo courtesy of Aminat Adeniyi)





We're bringing the celebration to you

Badger pride extends far beyond Brock's campus. Participate in a variety of activities and entertainment designed for all ages including family-friendly activities to enjoy with tiny Badgers, campus tours, alumni awards, reunion gatherings and more.

brocku.ca/homecoming

