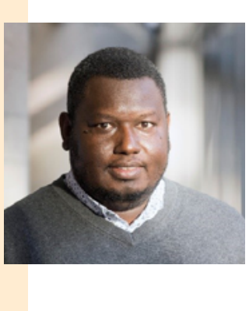
well-e
AI Serving Welfare

Vol. 1

Welcome to WELL-E

In this issue

Note from the PIs
Launch Report
Demographics & Metrics
Research Updates
Capacity Development
Events & Community Engagement
Get In Touch



Note from the PIs

We are so happy to introduce the first issue of the WELL-E Newsletter. The WELL-E project is a new collaboration born from our uncanny encounter (who would expect AI and welfare to work together so well), working to bring together the fields of animal welfare and artificial intelligence to improve the lives of animals in livestock production across Canada and of the people who care for them.

First launched on April 28, 2023, the first official year of the project has been busy! This past summer saw the first two animal trials run at the Macdonald Campus Farm, and, in parallel, the first steps taken in the development of our digital platform, the digital living lab. Though the latter is still in the works, the first steps in automation of behavioural data collection and analysis have been very exciting. This year also marked the beginning of a fruitful collaboration on Capacity building and knowledge transfer, as our chair is not just about research, but about the people involved, how they learn, and how best to address their existing needs.

Throughout this issue, you will be able to read about everything we have been up to! It is our hope that you, our readers, can share in this journey with us, as we delve into new technologies, research questions, and collaborations. We are so happy to have the opportunity to be able to share our findings with you, our community of readers.

Elsa Vasseur and Abdoulaye Banire Diallo, WELL-E co-chairs

> Since joining the lab in September 2023 as a first year MSc. student, I have had the privilege of partaking in meaningful and insightful research conducted by the Well-e lab. From hands-on experience working on the farm alongside farm staff and dairy cows, to in-lab experience cultivating my computer and software skills, I could not be more invigorated to be part of this lab. The mentorship and support I receive from everyone is continuously accelerating my learning and enabling my growth in research in a way I couldn't achieve elsewhere. In the coming months, I am really looking forward to contributing more of my time to the future projects of this lab, one of which will be my own. Starting this late spring, my project will focus on cognitive enrichments for dairy animals. All in all, I am thrilled to be a part of a team as multiskilled and attentive as the Well-e members as I progress through my education and achieve my goals.
>
> *Georgi Amarioarei, MSc Student, Animal Science, McGill*

> I am thrilled to share with you my recent involvement in the WELL-E project, a groundbreaking collaboration between Dr. Abdoulaye Banire Diallo and Elsa Vasseur, aiming to revolutionize animal welfare in livestock production across Canada through the integration of artificial intelligence (AI). Having joined the team in October 2023, I am excited to contribute to this innovative initiative that combines my expertise in computer vision fields with a focus on the dairy industry. My primary responsibility within the WELL-E project involves harnessing the power of AI algorithms to enhance cow welfare. Specifically, I am tasked with implementing deep learning techniques to analyze videos, enabling the recognition of cow emotions and the tracking of individual cows. This application of AI technology is pivotal in ensuring efficient, affordable, and scalable farm management solutions. I look forward to sharing more updates on our journey as we explore new technologies, tackle research questions, and foster collaborations within the WELL-E community. Together, we aim to make a lasting impact on the lives of animals in livestock production.
>
> *Voncarlos Marcelo De Araùjo, Post-Doctoral fellow, Laboratoire de Bioinfo, UQAM*

Launch Report

The WELL-E Chair was officially launched April 28, 2023. To mark the event, we threw a cocktail/launch event at the Centre Phi, a beautiful venue focussing on the intersection of art and technology (which we thought was on-theme) in the heart of downtown Montreal!

Preceded by an afternoon panel discussion, bringing together experts from the social sciences, agricultural sciences, and computer sciences to discuss the challenges and obstacles for the deployment and adoption of AI tools on farms, the launch event itself brought together over 100 individuals from across our industries. From major dairy board partners to heads of research and innovation from both McGill and UQAM, Animal Sciences, and Computer Sciences, individuals travelled from across Canada to join us to celebrate the momentous occasion.

The event began with speeches from industry leaders, with representatives from Novalait, Dairy Farmers of Canada, Dairy Farmers of Ontario, les Producteurs de lait de Quebec, and Lactanet all taking a turn to express their excitement for the project. Followed by university representatives, expressing their support for the initiative, the enthusiasm of the different participants was tangible. Elsa and Abdoulaye finished off the speech section, and expressed their deep gratitude for the support received, and thus began the celebration.

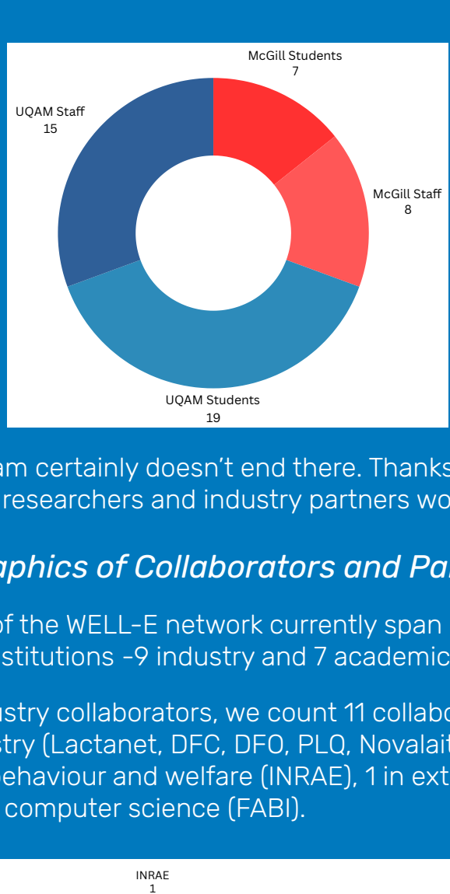
We were overjoyed with the level of support received for our initiative. With any type of event like this, you would hope that the average individual will stay for at least a couple of hours. Based on metrics taken from the event, the average duration for a guest was 4.5 hours, with several individuals staying until we had to turn out the lights! Seeing such enthusiasm for a project that had barely gotten off the ground made us so excited to begin our work! Knowing that there are people interested in our work and ready to read about our findings, gives us such confidence moving forward. We cannot wait to continue to share it with you.

Demographics & Metrics

WELL-E is made up of a diverse group of students, researchers, and industry partners from across Canada and beyond. The core team is split between Elsa's and Abdoulaye's labs, located at McGill and UQAM, respectively. Both principal investigators have dedicated their careers to the development of highly trained individuals and teams. Over the course of their careers, Elsa and Abdoulaye have collectively supervised over 160 staff and students, many of which have gone on to work in our respective research fields/industries.

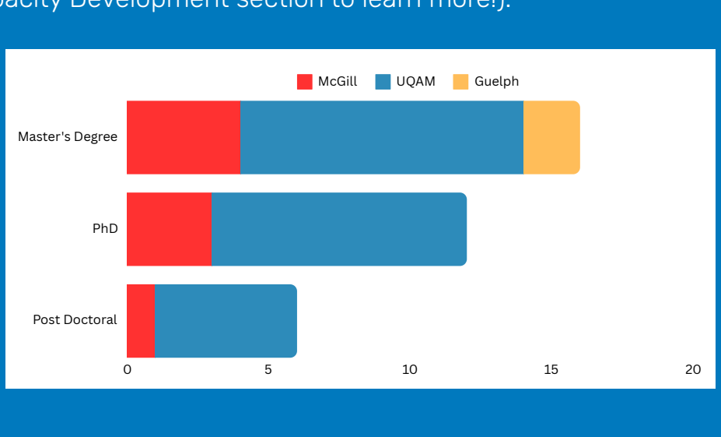
WELL-E Core Team

The core team is made up of the staff and students from our two lead institutions: McGill and UQAM. We currently both 7 students and 8 staff (Research Assistants, Post-doctoral Fellows, and other scientists) at McGill and 19 students, 15 staff at UQAM. The team is always growing, check out our website at well-e.org to find out more!



Students

The bulk of WELL-E's student force is made up of the students pursuing their degrees. We currently have 6 post-doctoral researchers (1 McGill, 5 UQAM), 12 PhD Students (3 McGill, 9 UQAM), and 16 Master's students (4 McGill, 10 UQAM, and 2 from a collaboration with the University of Guelph -Check out the Capacity Development section to learn more!).

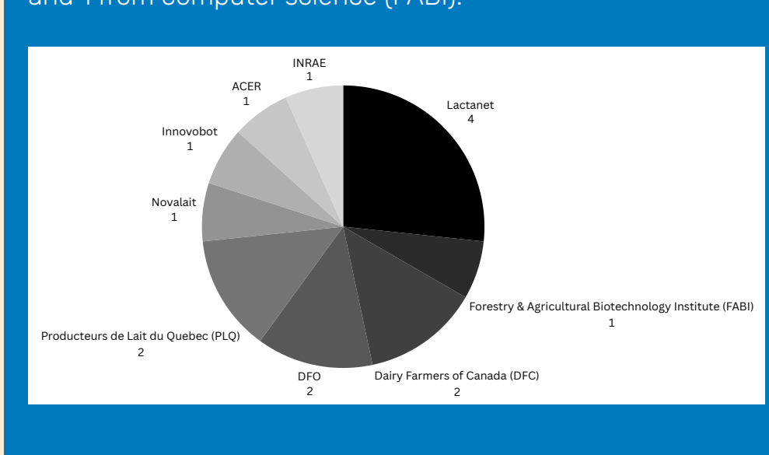


But the team certainly doesn't end there. Thanks to a tight network of dedicated researchers, WELL-E is proud to name number of prominent researchers and industry partners worldwide as members of the team.

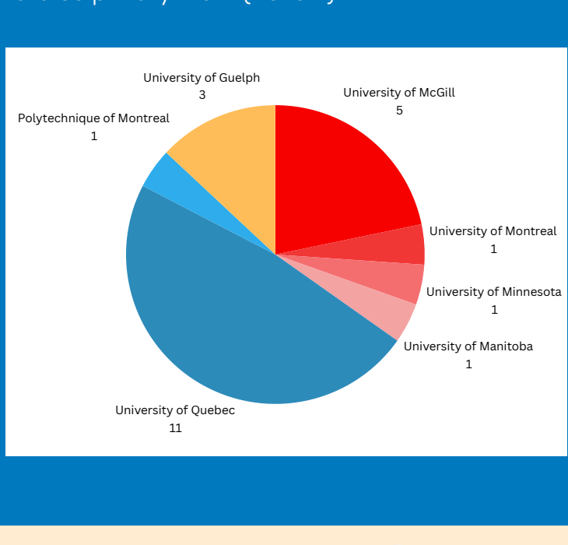
Demographics of Collaborators and Partners

Members of the WELL-E network currently span across 16 different institutions -9 industry and 7 academic.

Of the industry collaborators, we count 11 collaborators from the dairy industry (Lactanet, DFC, DFO, PLQ, Novalait), 1 speacialized in animal behaviour and welfare (INRAE), 1 in extension (ACER) and 1 from computer science (FABI).



Researchers that are part of the WELL-E team can largely be divided into animal science/welfare experts (in red), Computer Science/AI experts (in blue), and Extension/Interdisciplinary work (Yellow).



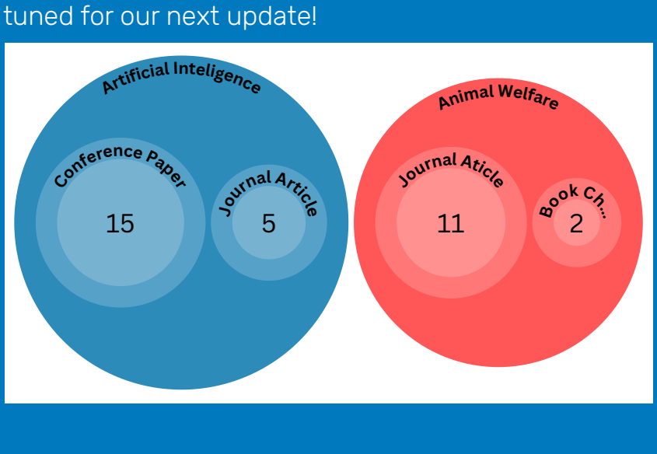
The WELL-E chair would not be possible without the support of various funding agencies. Our team relies on grants received at various levels, and we have been lucky to receive numerous grants and awards to support our work.

Metrics of Note

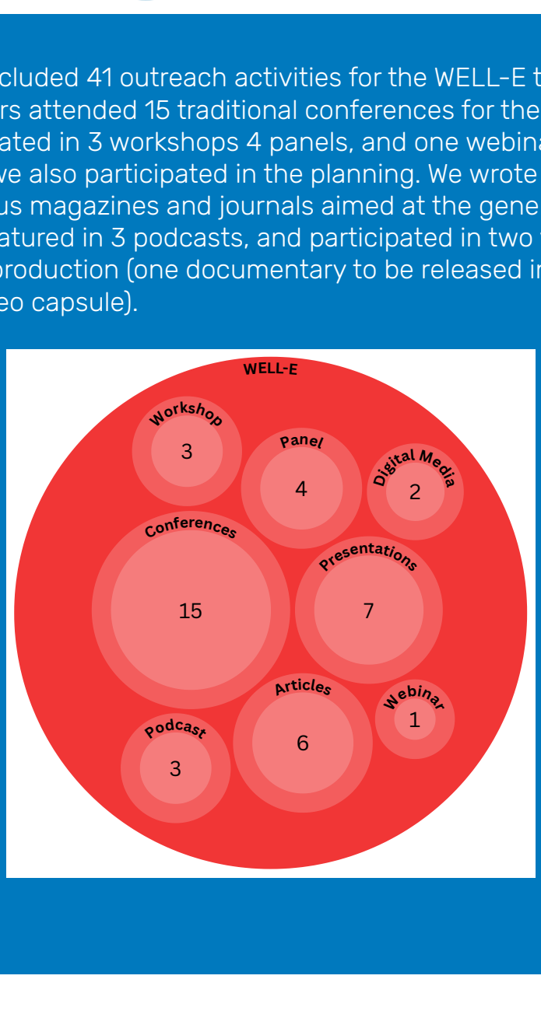
The first year of WELL-E has really saw both teams hit the ground running. In our first year of research, we counted a total of 102 activities, including both academic and non- articles, participation in conferences, workshops and other media. Particular attention was given to medias outside the universities in order to build visibility and recognition of WELL-E and its activities.

Publications

In our first year of research, members of WELL-E's core team produced 20 articles in AI topics and 13 in Animal Welfare topics. As most of our major projects have not advanced very far, many of these covered fundamental topics. As our projects fully get underway, we expect to see a huge increase in these numbers. Stay tuned for our next update!

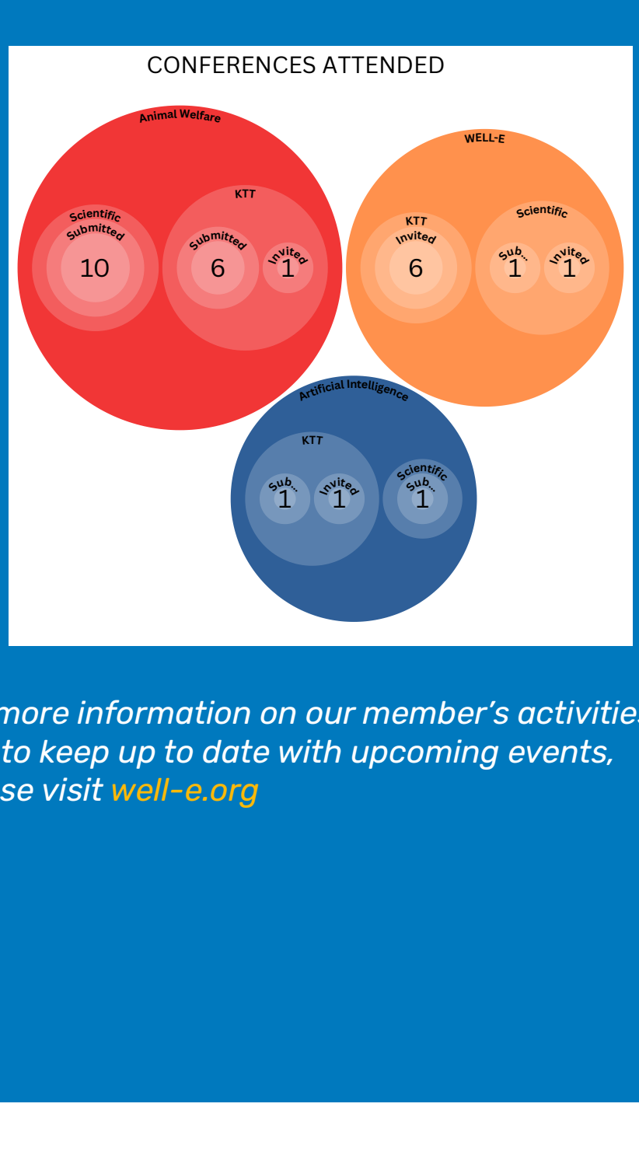


2023 included 41 outreach activities for the WELL-E team. Our members attended 15 traditional conferences for the public, and participated in 3 workshops 4 panels, and one webinar, many of which we also participated in the planning. We wrote 6 articles in various magazines and journals aimed at the general public, were featured in 3 podcasts, and participated in two video/digital media production (one documentary to be released in 2024 and one video capsule).



Conference Attendance

The team was also fairly active in conferences throughout the year. The team attended conferences on three main topics: Animal Welfare, Artificial Intelligence, and interdisciplinary work focusing on the niche filled by the chair itself. Within each section, we further divided the presentations by purpose (either scientific presentations to academics or Knowledge Translation and Transfer (KTT) to the general public/across domains). The computer science team focused more on conference papers (included above), and attended an additional 3 conferences, of which one was invited. The Animal Science team attended 17 Animal Welfare conferences, of which one KTT was also invited. 8 additional conferences were attended by members of both teams on the topic of the chair/interdisciplinary work, of which 6 were invited.



For more information on our member's activities and to keep up to date with upcoming events, please visit well-e.org

Research Updates

Within the Research and Innovation Chair in Animal Welfare and Artificial Intelligence (WELL-E), our two teams (McGill animal science and UQAM computer sciences) work together to address crucial questions regarding the well-being of farm animals, as well as the creation of tools and toolkits for farmers and important technological advancements.

Our research questions include what do cows need, where do they need it (In stalls? Outdoors?), and how can proposed enrichments be integrated to better meet existing needs.

In the first two years of the chair, the animal sciences team and its animal welfare collaborators will be focused on the theme of enrichment, particularly of the animal's living environment, in order to deepen our understanding of animal behavioural needs. Our research is thus structured around three major axes: environmental enrichment, social enrichment, and the improvement of dairy cow handling practices. Consumer concerns for animal welfare guide our work, emphasizing the importance of providing animals with opportunities for movement and for the expression of natural behaviours in all housing systems in Canadian dairies.

Our initial projects aim to understand and improve the satisfaction of the behavioural needs of dairy cows, particularly by introducing environmental or social enrichment, both in stalls and during access to outdoor spaces. Our research questions include what do cows need, where do they need it (in stalls? outdoors?), and how can proposed enrichments be integrated to better meet existing needs.

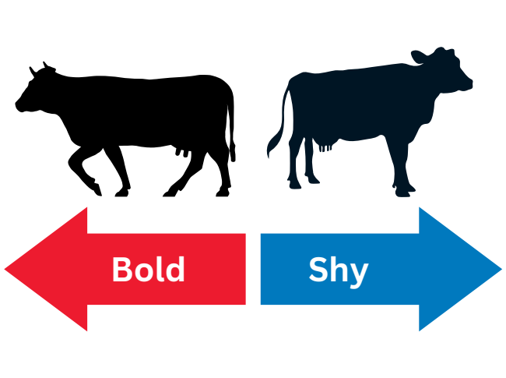
We are currently in the early stages of the WELL-E chair, where our projects mainly focus on two research and teaching farms and play a key role in providing proof of concept results regarding the behavioural needs of cows. Our efforts focus on developing research questions, validating concepts for future expansion to other farms, and implementing equipment for efficient data collection.

We are excited to share an overview of our work to date, aiming to enrich the living environment of dairy cows, with a particular focus on satisfying their behavioural needs.

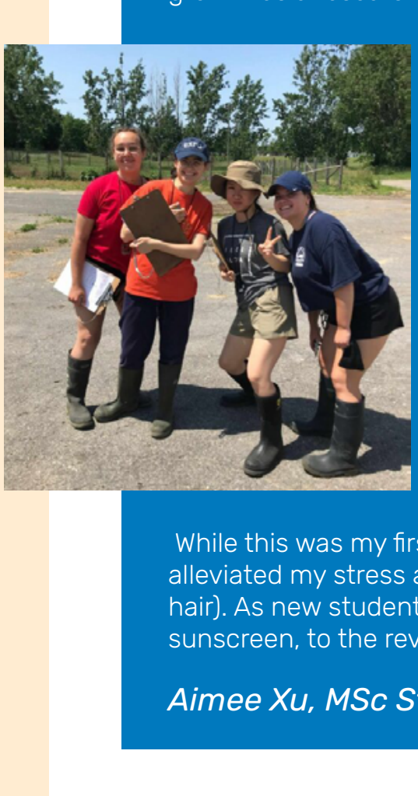
Social Enrichment

In many dairy farms, cows are grouped or arranged based on practical considerations, such as age or parity, rather than on their social compatibility. This lack of consideration for social compatibility aspects can lead to undesirable consequences such as aggressive behaviours, ultimately impacting individual well-being and emotional states of the animals. Our first research project's goal is thus to understand the social dynamics within a herd in order to develop grouping strategies that take into account not only traditional management factors, but also aspects of the individuals' social compatibility. Our idea is to group cows based on their preferences and form friendly companionships, aiming to reduce negative behavioural interactions. This project will contribute to establish the foundations of compatible group formation by specifically examining the role of cow personality in group formation. As part of this project, we subjected all cows in the barn to a battery of behavioural tests (e.g., reactions to humans, novelty, or suddenness test) to define personality profiles and position each individual along a personality trait continuum, ranging, for example, from shy to bold.

Once these data are analyzed, we will be able observe the associations that cows naturally form to determine whether a concept the likes of "opposites attract" or "birds of a feather flock together" is predominant in group formation. This investigation into the social preferences of animals will pave the way for practical applications, such as grouping animals that get along well on a daily basis or using these groups to facilitate handling.



> I stroll into the barn and I'm welcomed by the crisp morning breeze and subtle whiffs of feed and shavings muddled with hints of cow manure. My routine unfolds as I print out observation data sheets, sweep the corridors, and touch base with the barn staff to see if everything is well with both the barn and our cooperative subjects - dairy cows, whom I warmly greet. As our interns and lab members arrive, I take a final sip of my caffeinated cup as we set off to begin testing.
>
> My research, simply put, aims to categorize personality of dairy cows.
>
> As previous research has suggested that higher quality social relationships between animals often result from those of similar personalities, we are interested in seeing if housing by compatibility can positively impact their emotional states. Our approach involves creating personalized profiles (almost like Bovine Bumble) for each cow in the barn.
>
> This past summer, I successfully completed the first part of my project (woohoo!) where we performed behavioral tests over several months to see short- and long-term consistency in dairy cow behavior to offer insight into the expression of individual personalities.
>
> The first thing I realized during my project was the amount of meticulous pre-planning needed. The hours invested in troubleshooting cameras, managing and maintaining testing systems, checking inventory, and making protocols, are forever etched in my memory. While some of the behavioral tests had already been conducted in our lab (lightening my burdens somewhat), others were entirely new for our lab, our farm, or research in general! So, adapting methodologies from other's research and integrating them as our own proved to be a pivotal skill. I've also learned to incorporate new systems of data collection, new team members, and new set ups within our research, which undoubtedly spurred my growth as a researcher.
>
> Amidst the multitude of new adaptations, I finally grasped the essence of the saying "the devil is in the details". Collaborating with the brilliant minds on our team, we devised an ingenious plan featuring a string and pulley system, where instead of performing tests on cows one by one, we streamlined the testing process for an entire row of cows (around 20 individuals) in one go. However, the real adventure began when we hurriedly attempted to construct it a week before trials began, a process that occasionally made me want to pull my hair out.
>
> The ultimate challenge? Wrestling with the countless strings that, of course, always magically tangles into a million knots. Fortunately, I wasn't in this alone; there were days where the entire lab gathered to lend a helping hand, braving many pairs of poop-splattered pants and sweat drenched shirts as we worked in the humid summer air to test and perfect our system. All this is to say that I learned data collection is not perfect (nor easy, to say the least). Numerous obstacles will inevitably present themselves, from the occasional power outages that disconnects all your cameras to the endless amount of SD cards that await transferring. What holds greater importance is the ability to learn from our mistakes.
>
> While this was my first time leading a project, I was blessed by unwavering support from my team. Their assistance alleviated my stress and transformed the process into a fun and enjoyable journey (helping to retain my sanity and my hair). As new students join us, I am eager to pass along the lessons I've learned: from the vitality of a good hat and ample sunscreen, to the revelation that a double-shot espresso will probably be your best ally!
>
> *Aimee Xu, MSc Student, Animal Science, McGill*

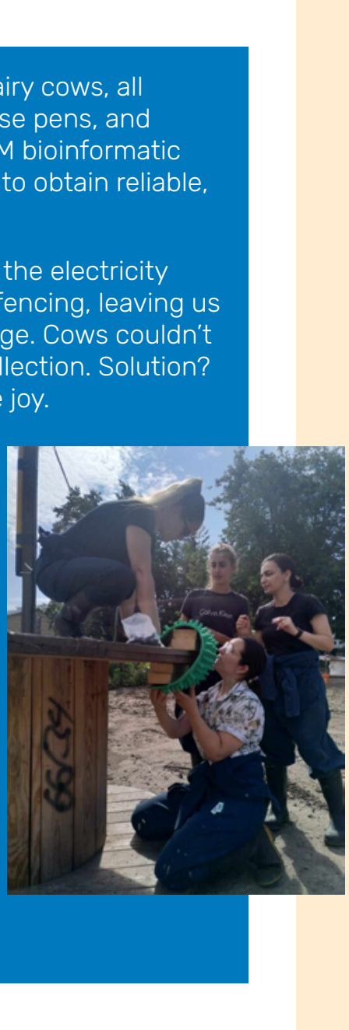


Environmental Enrichment

If you have ever visited a dairy farm in Canada, you may have noticed that the cows have access to very limited activities. Our wish to deepen the understanding of the behavioural needs of cows led to a second project focusing on the satisfaction of grooming and oral manipulation needs. The goal was to determine if adding physical enrichment, both in the stall and outside, could help fulfill these two identified needs. And so, two types of enrichment were tested in both the stall and outdoor exercise areas: the addition of rubber scratchers to attempt to fulfill grooming needs, and the addition of Kongs (a type of ball with a hole, commonly used for dogs) to attempt to fulfill oral manipulation needs. Behaviours related to these enrichments were continuously recorded using cameras. The results of this project are currently being analyzed, and we look forward to sharing the study's conclusions once available.

Our collaboration with the UQAM computer sciences team will allow us to continue exploring these needs, particularly through the development of methods to capture data on a larger scale and the creation of new analysis methods.

> Embarking on my master's project was a thrilling journey into the world of environmental enrichments for dairy cows, all with the aim of enhancing their welfare. Picture this: carefully chosen objects in tie-stall housing and exercise pens, and my anticipation to witness the interactions that would unfold. A collective effort from the Cow Life and UQAM bioinformatic laboratory members was dedicated to the crucial data collection phase of my master's project. Our mission: to obtain reliable, precise results for in-depth analysis and drawing meaningful conclusions.
>
> Data collection at Macdonald Campus Dairy farm brought unexpected twists! Initially thinking we could skip the electricity power in exercise pens, reality hit hard on day one. The third cow group managed to destroy the temporary fencing, leaving us data-less. Quick fix: powered up the fences for the remainder days. Snowy mornings unveiled a new challenge. Cows couldn't see the white wires and it resulted in a recurrence of the same issue encountered as the first day of data collection. Solution? Colorful tape! Despite awaiting results, watching cows engaging with the two enrichments brought me pure joy.
>
> With thirty strategically placed GoPro Hero 11 cameras, a team of enthusiastic Cow Life and UQAM bioinformatic laboratory members, barn staff, and a crew of lactating cows – my experiment was a whirlwind! A tight schedule in which every detail was crucial was established and updated several times to coordinate and optimize the efforts of everyone involved in order to achieve those project goals. My initiation into leading the team for data collection? A steep learning curve. Juggling close animal manipulation and tight timeframes was no small feat, especially for cow-handling newbies among my colleagues. Through highs and lows, the spirit of learning prevailed, fostering a remarkable team effort over the intense eight weeks of data collection.
>
> Wrapping up the lengthy data collection left me fatigued but proud of our achievements! Daily outdoor physical tasks and cow interactions were my stress-busting companions. Lessons learned? Discipline, communication, and teamwork are the secret sauce for success. Huge thanks to the dedicated folks at Cow Life, UQAM bioinformatic labs, and the barn staff for their unwavering support. Excited for the next data collection adventure kicking off in a few months!
>
> *Sandrine Arsenault, MSc Student, Animal Science, McGill*

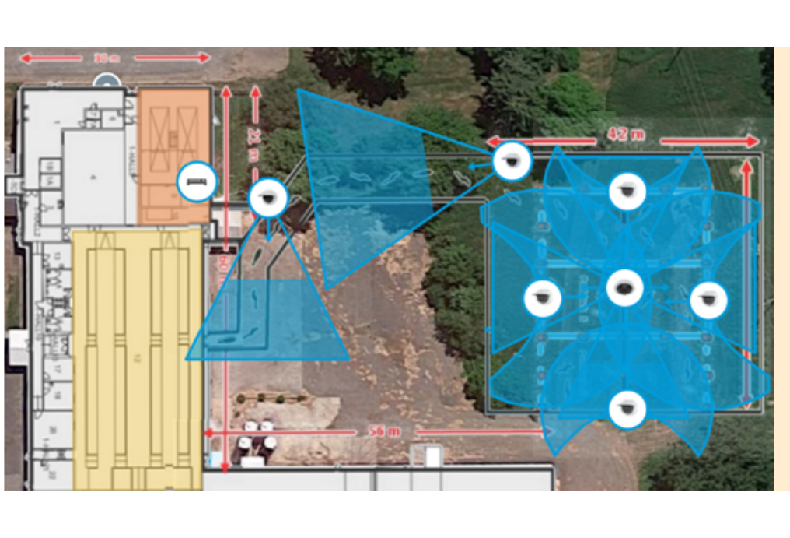


These two projects are just the first in a series of questions we have regarding the satisfaction of behavioural needs. Our collaboration with the UQAM computer sciences team will allow us to continue exploring these needs, particularly through the development of methods to capture data on a larger scale and the creation of new analysis methods.

Research within the WELL-E chair is based on the union between animal science and computer science. To integrate these two fields, one of the first steps taken was to incorporate new technologies into the barn. Therefore, experiments conducted at the research farm on the McGill University MacDonald's campus were the focus of the initial technological innovations.

The Macdonald dairy barn is typical from a number of barns – the technology used is mostly on the milking recording or feeding equipment; still little is used for overall cow behaviour monitoring. Studies previously conducted in the experimental barn primarily used a collection of GoPro cameras from the consumer market and NVRs but no connected technologies. This system was not designed for large-scale experiments or on-farm scaling up.

Our first challenge was to design and install a camera system capable of capturing images independently of the barn's ongoing studies as well as minimizing manually performed operations. To create such a system, we consulted multiple experts in the audio-visual and computer vision fields. Subsequently, a first conceptual iteration was created. Demonstration cameras were used to verify shots and confirm that the obtained images aligned with the needs for future experiments. After several months of design and testing, a concept was finally determined.



The camera concept was divided into two parts, as experimental needs varied between the indoor and outdoor environments. The solution developed at the moment is for the exterior of the barn only. In this system, a server is wired to 7 cameras installed outside. The exterior cameras include a 360-degree camera in the middle of the paddock where the animals go out every day, four 180-degree cameras above the fence of the same paddock, and two standard cameras recording movements in the corridor, as illustrated left.

The advantage of such a recording system is to automate data collection and its acquisition on a computer, in addition to minimizing manually performed operations. The volume of data produced by larger-scale studies, as mentioned earlier, is enormous. Thus, for an experiment that required the camera system, it was necessary to use 32 GoPro cameras in parallel and manage data transfer via 64 SD cards and 20 external hard drives. The data then had to be sent to a server for storage, amounting to approximately 1.5 TB of data produced per day. And 60 TB over the course of a 9-week experiment. To provide some context, CowLife McGill lab previously produced the same amount of data over 5 years. Therefore, tasks that needed to be performed manually will now be replaced by automations on the capture server. Additionally, video management can also be carried out directly in the barn before being sent to other storage servers, where it can be analysed by the animal scientists.

Now, the study of animal behaviour using video software is a time-consuming and demanding task that requires trained personnel and can be subject to biases. It would be highly desirable to find ways to speed up this process using computer power, especially considering the huge amount of data that our large-scale experiments will produce.

This is where artificial intelligence, and the Bioinformatique Lab from UQAM, step in. Indeed, as has been shown by technological powerhouses such as Meta and Google, the availability of low-cost computing power, disk storage, and huge databanks of millions of images, has opened the door to easily creating tools that can perform tasks that were previously only achievable by human beings. These tasks range from reading hand-written text, to facial recognition using image databanks, and recognizing objects on images and videos.

Computer programs could then be created that are able to replace, to a large extent, the role played by humans in annotating behavioural videos, speeding up the process dramatically. These tools, which are still in development, will be able to detect cows in the busy (and sometimes messy) environment of the barn, and read the position of each animal's body and limbs.

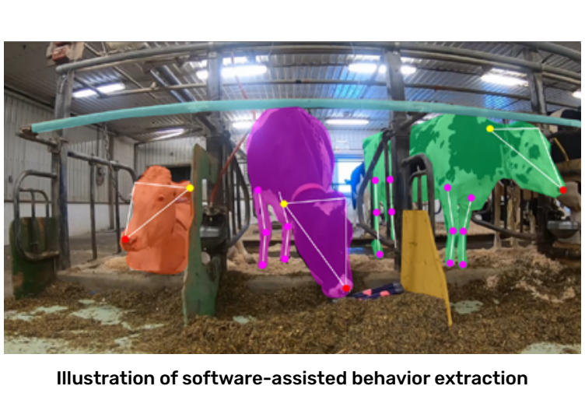
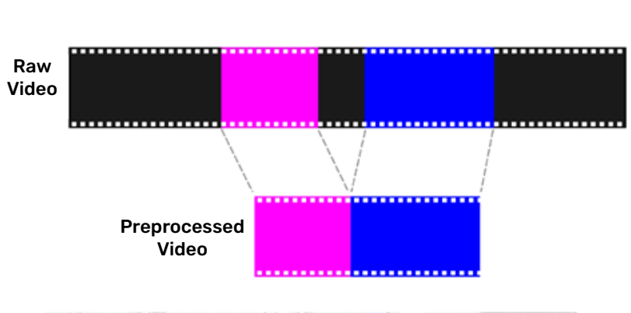


Illustration of software-assisted behavior extraction from video of cows in their stall

This information, which is returned in the form of files containing numerical data, can then be further converted into behavioural cues and used by animal scientists for their statistical analysis just as if they had been obtained manually.

However, regardless of how videos are annotated (manually or using an AI-assisted software), they need to go through a phase called pre-processing, where unwanted information is removed, and new information helpful to behaviour coding is added.

The first phase of pre-processing involves, for each recorded day, removing from videos any frame where no interesting information is present. The remaining frames are then grouped together into a shorter video (which are operations called cropping and stitching, respectively).



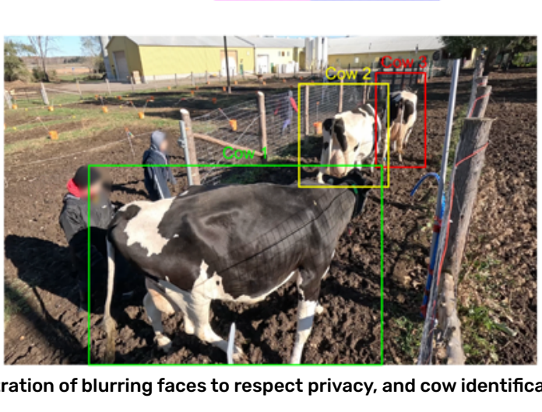


Illustration of blurring faces to respect privacy, and cow identification

The next step is the removal or masking of any sensitive information contained in the videos, such as the identity of the people working on the farm, or the location where the experiments were conducted. This is done by selectively blurring the faces of people appearing in frame, and masking the environment of the barn.

Another important step is the labeling of cows appearing on the videos. This is particularly useful when analyzing videos in experiments where many cows are present at the same time (e.g. in experiments studying social interactions). For this task, we are currently developing a software which will act very much like the face recognition programs used by law-enforcement agencies, and where the features of cows appearing on videos will be matched with a database of animals living on the farm.

The tools we just described to detect and interpret cow behaviours from videos are not ends in and of themselves, but highly advanced scientific research devices. Rather, they are the starting points for creating more advanced software packages that would allow the continuous monitoring, using for instance the barn's surveillance cameras of cows' physical and psychologial states. These tools, which we intend to make available to farmers, will provide them with a wealth of information and recommendations to even better take care of their herds, and improve cow longevity and productivity.

This numerical revolution of the dairy farming system will be implemented in stages and is being developed to be used in the farm where we are currently conducting our experiments. We are already preparing the extension of our activities to another farm this summer and autumn, and are in the planning stages for deploying the same numerical infrastructure to a network of commercial farms.

> During my internship within the WELL-E laboratory and team, I worked on the pre-processing of videos and images of dairy cows, more specifically on operations such as stitching, face blurring, video synchronization, and motion detection. These are tasks directly related to WELL-E's objectives. I learned that the dairy industry in Canada, as well as globally, is more complex than it seems, and that there must be a balance between producers and animals. The latter are at the very center of our mission, which is to enhance their well-being. A happy cow produces better milk! (This is a joke; this information remains to be verified). I also learned to work in a team, to improve my communication, and to research information relevant to my work.
>
> Subsequently, my specialized graduate studies came to an end, and I enrolled in a master's program in computer science, providing me with the opportunity to continue at the WELL-E laboratory, still focusing on the same theme of animal welfare. My master's is centered on the processing of images to derive information about the behaviour of animals. I will contribute to the automated identification of cows on videos, and the detection of their behavioural attributes (for example, their location in the enclosure, and the position of their limbs).
>
> *Khaly Bécaye Ba Cisse, MSc Student, Computer Science, UQAM*

Capacity Development

In order to ensure that our work corresponds to existing needs and can be effectively applied to real-world problems, our work must extend beyond our traditional fields and into the spaces between. In order to do this, we have been working closely with experts in social science with the goal of creating an interdisciplinary research environment that can tackle the future of digitalizing dairy. In collaboration with Professor Helen Hambly and her team at the University of Guelph, as well as Dr. Steven Roche from ACER consulting, we will be studying the social science elements of the WELL-E project. These elements include capacity development (commonly referred to as training or learning), extension, and knowledge mobilization. They will assess the needs and skills of each stakeholder in order to guide research and training activities. This not only serves to ensure project feasibility, but also the enhancement of stakeholder abilities, and helps promote a pleasant and cooperative work environment. Essentially, it will focus on how we share knowledge and how that knowledge is received, as creating research means nothing if it doesn't 1. correspond to existing needs or questions in the real world and 2. get dispersed and incorporated by the target group the research was completed for.

Our first official capacity development workshop was held on December 4 and 5 2023. This two-day event brought together members of both labs as well as Helen's team of students from Guelph, and served as the first official "Learning Needs Assessment" for the student learning group within WELL-E.

In both small groups, students were asked to list and rank their individual learning needs. For example, what are the major skills being developed across their degree in terms of individual skills vs interpersonal skills? In a large group discussion, items were then recategorized and regrouped until all participants were in accordance. As a final step, students were asked to go "shopping" for learning needs events. Given the final list of needs, they were asked: if you could only have one event/workshop on one single topic listed, what would be your first choice? Second? And so on until they each had a ranked list of their top 10 individual learning needs.

Thus ended the Capacity Development Workshop, and began the first steps in the Learning Needs Assessment among WELL-E learner groups. In general, there was extremely positive feedback from the event. The process of learning and knowledge acquisition is so often taken for granted in academia, and extremely streamlined. By allowing the students to take charge of their own learning needs, and advocate for the skills they want developed, we ensure that each individual can truly make the most of their academic and professional development over the course of their degrees. Not only will they graduate with the official degree from the program, but with a host of other relevant skills that they are individually invested in developing.

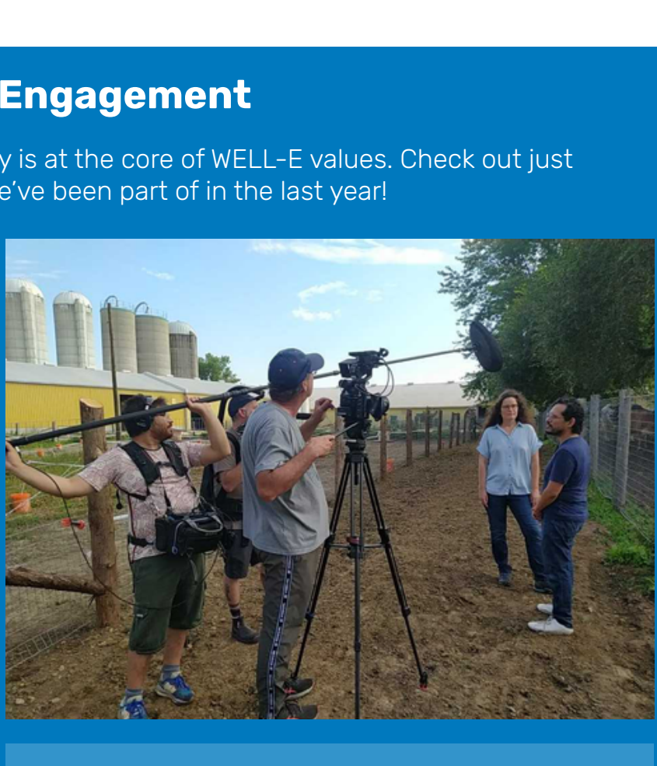
As a following step, Helen and her team will group and analyze the data received from the ranked assessments. In the following months, a summary of learning needs for students will be produced. In addition, we will return to students with their top needs and allow additional input on desired/ideal formats for each need. In addition, we will carry out similar assessments with the other learning groups within WELL-E, from academic researchers to producer groups that we hope to work with in the future to incorporate research findings. In the end, we will have a full summary of which groups want to learn what and how.

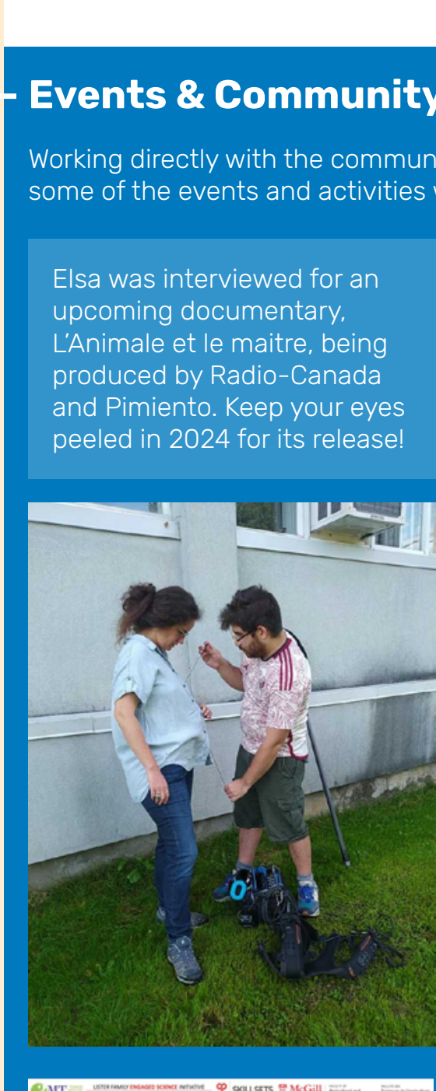
Our end goal will be to build a comprehensive capacity building plan that takes into account both the context of change and different profiles of learners involved in the WELL-E chair. This will, in turn, facilitate the development of practices to improve animal welfare and longevity as well as artificial intelligence-based tools to help with on-farm decision making. In addition, it will work to create a common understanding (learning community) among diverse researchers and partners needed to support WELL-E. Finally, by grounding our work in the developing learning needs of our stakeholder groups, we can ensure that our efforts and resources are being allocated as efficiently as possible, and that our work can have a positive impact for those who need it most.

Events & Community Engagement

Working directly with the community is at the core of WELL-E values. Check out just some of the events and activities we've been part of in the last year!

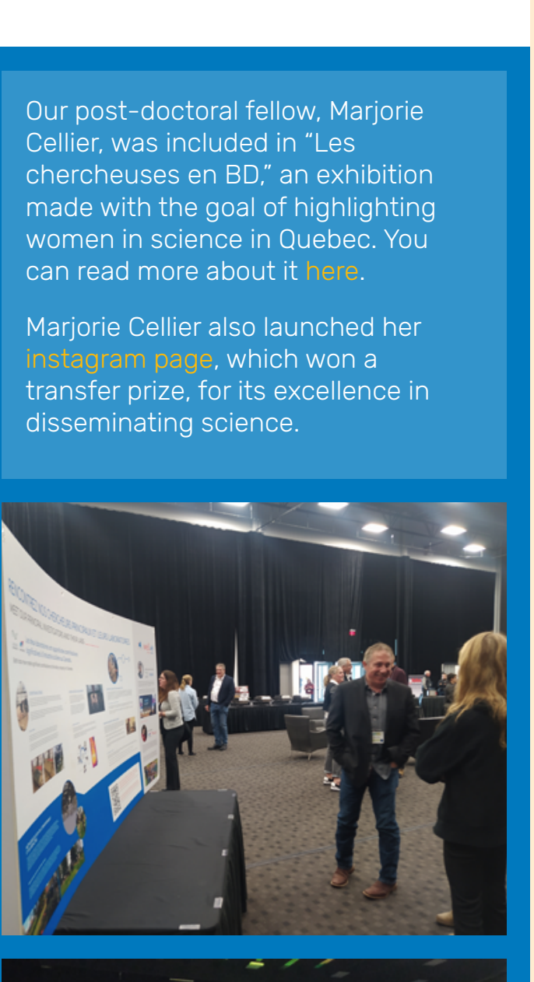
Elsa was interviewed for an upcoming documentary, L'Animale et le maitre, being produced by Radio-Canada and Pimiento. Keep your eyes peeled in 2024 for its release!



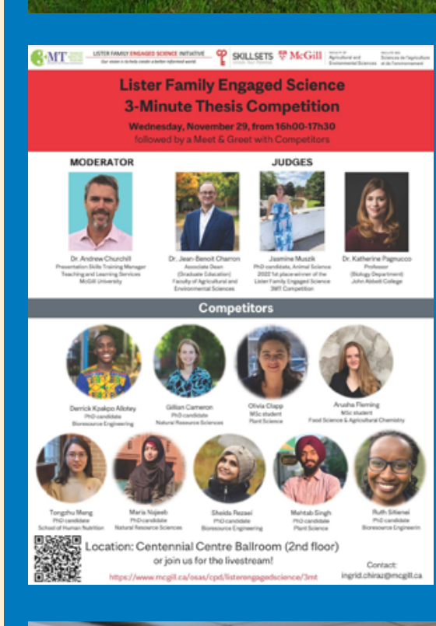


Our post-doctoral fellow, Marjorie Cellier, was included in "Les chercheuses en BD," an exhibition made with the goal of highlighting women in science in Quebec. You can read more about it here.

Marjorie Cellier also launched her instagram page, which won a transfer prize, for its excellence in disseminating science.



We were invited to attend Novalait's Symposium sur les Bovin laitiers, which took place on Nov 8, 2023, in Drummonville, Qc, in order to introduce WELL-E and meet with producers as well as other academics.



Lister Family Engaged Science
3-Minute Thesis Competition
Wednesday, November 29, from 16h00-17h30
followed by a Meet & Greet with Competitors

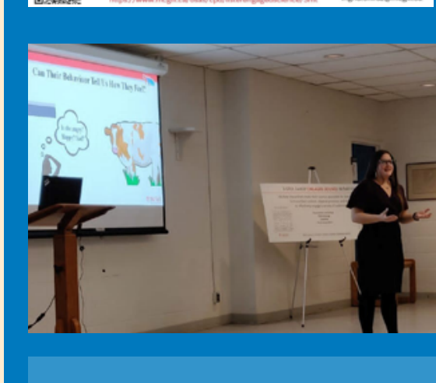
MODERATOR

JUDGES

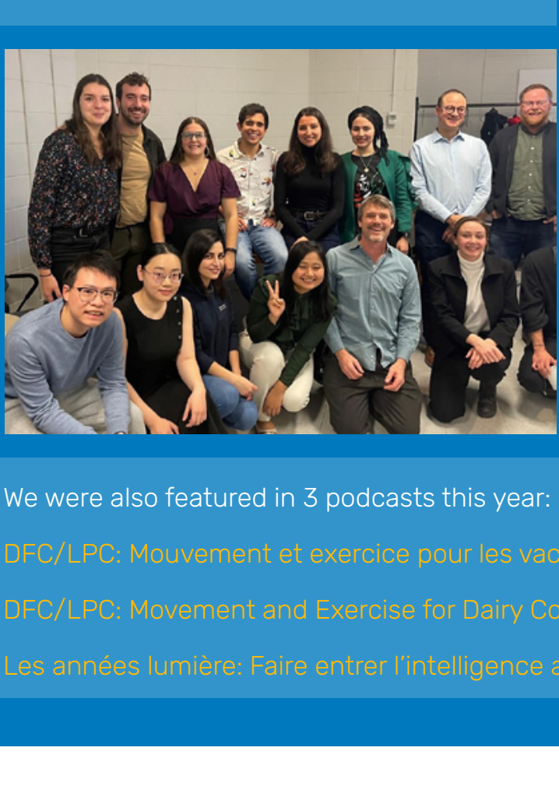
Competitors

Location: Centennial Centre Ballroom (2nd floor)
or join us for the livestream!

PhD Student Jasmine Muszik took part in both the 2022 and 2023 Lister Family Engaged 3-minute thesis competition, first as a contestant, where she took home first place, then as a competition judge the following year! She will also be competing in McGill's 3-minute thesis competition later this year.



We participated in an additional 9 presentations and workshops over the past year.



Three of our lab members, Hayda Almeida (post-doctoral fellow), Armand Bandiang (PhD student), and Mamadou Malahdo Barry (Master's student) all took part in the workshop "MLOps Upskilling Program - Mastering MLOps for Production-Ready and Machine Learning Pipelines" offered by IVADO in collaboration with SEMLA.

Les années lumière

We were also featured in 3 podcasts this year:

DFC/LPC: Mouvement et exercice pour les vaches laitières

DFC/LPC: Movement and Exercise for Dairy Cows

Les années lumière: Faire entrer l'intelligence artificielle dans l'étable

Get in touch!

Interested in becoming a part of WELL-E? We are always looking for motivated individuals to join the team!

Depending on your level of interest and time available, WELL-E has several options for participating in our research within both teams

- Summer internships
- Undergraduate Internship Course (McGill)
- Undergraduate Thesis projects
- Applied- and Thesis-based master's degrees
- PhD positions

If you are interested in joining the team, please send a message with your CV and dates of interest to Marjorie Cellier (Animal Science, McGill): marjorie.cellier@mail.mcgill.ca or Karen Reynard (Computer Science, UQAM): reynard.karen@uqam.ca

Links

Subscribe to our newsletter
LinkedIn
well-e.org
cowlifemcgill.com
Prof. Elsa Vasseur
Prof. Abdoulaye Baniré Diallo

Contributors

Authors
Georgi Amarioarei
Sandrine Arsenault
Khaly Bécaye Ba Cisse
Abdoulaye Baniré Diallo
Marjorie Cellier
Fatou Cisse
Voncarlos Marcelo De Araùjo
Nicolas de Montigny
Thomas Gisiger
Rachel van Vliet
Elsa Vasseur
Aimee Xu
Newsletter Design
Jacqui Bush

© All rights reserved 2024