GIFS | GLOBAL INSTITUTE FOR FOOD SECURITY

Growing science for life

Nutrien - a Founding Partner

ANNUAL REPORT 2022/23

Our vision provides direction.

A world where everyone has access to safe and nutritious food.

Our mission creates focus.

We work with partners to discover, develop and deliver innovative solutions for the production of globally sustainable food.

Our values help support our vision and guide our behaviours, shaping our culture and identity.

Innovation. Excellence. Collaboration. Integrity. Equity, Diversity and Inclusion.

Our purpose:

GIFS is agriculture's innovation catalyst, connecting the agri-food ecosystem, advancing innovation and bridging the gap to commercialization to deliver resilient and sustainable food security for all stakeholders.

Our strategic drivers:

Aligning impact with mission helps us understand and meet customer needs and informs future investment decisions.

Building scale supports strategic growth within a sustainable framework.

Integrated sustainability (environmental, economic and social) creates long-term value.

Synergy helps create a value culture that is complementary and helps drive teamwork, open communication and results.

* Cover photo: Jaclyn Prystupa, Senior Laboratory Technician, Omics and Precision Agriculture Laboratory (OPAL)

Founding Partners:

Nutrien Feeding the Future™ | Saskatchewan | University of Saskatchewan

About GIFS

The Global Institute for Food Security (GIFS) at the University of Saskatchewan (USask) works with partners to discover, develop and deliver innovative solutions for the production of globally sustainable food. Serving as 'agriculture's innovation catalyst,' GIFS is connecting the agri-food ecosystem, advancing innovation and bridging the gap to commercialization to deliver resilient and sustainable food security for all stakeholders.

Founded in 2012 in a partnership between Nutrien, the Government of Saskatchewan and USask, GIFS' vision is a world where everyone has access to safe and nutritious food. Striving towards this bold vision, we invest in relevant technology platforms that provide scale and transform our scientific competencies and capabilities into capacities for stakeholders, making us a catalyst for partnerships and innovation worldwide.

Located within one of the world's strongest agri-science ecosystems, we are helping to build a food-secure world from Saskatchewan-out, working with industry, producers, consumers, academics and governments both at home and abroad to decrease the time between the discovery of innovative science and its delivery to market.

Contents

Our Strategy

GIFS rolled out its Corporate Strategic Plan in 2020 following extensive consultations with our Board of Directors, Founding Partners, staff, International Scientific Advisory Panel and stakeholders.

The strategy set a bold path forward: identifying the steps required to advance our mission, extend our network and promote GIFS' sustainable operations through diversified and resilient revenue sources.

Since then, considerable progress has been made. As our team expanded in size, the organization established the Omics and Precision Agriculture Laboratory (OPAL), grew our Data Management and Analytics capacity, developed an intellectual property strategy and made significant investments in technology, communications and talent management to help us engage, serve and collaborate with a growing list of global partners.

The next phase

In 2022-23, we took another step forward, transitioning into the next phase of our strategy that will see GIFS grow through new long-term partnerships that produce innovative services, solutions and tools for the agri-food sector.

These initiatives are supported by our market-driven science programs that were rolled out in 2022-23 to provide additional value to partners, the ecosystem and stakeholders.

When fully operationalized, these programs — Accelerated Breeding, Biomanufacturing and Policy and Regulatory — will engage all our technology platforms and grow the innovation ecosystem in Saskatchewan and Canada. They bring relevant and impactful technologies and strategies to our partners today and position GIFS at the leading-edge of research and development, ensuring the organization will continue to **discover, develop** and **deliver** innovation into the future.

ACCELERATED BREEDING

GIFS' Accelerated Breeding Program provides public and private organizations with genomic selection, speed breeding and modelling services to increase the rate of genetic gain in their plant and livestock breeding programs. Leveraging the strength of GIFS' technology platforms, this program is helping partners to improve their return on investment and more rapidly bring new innovations to producers that increase quality and yield, promote resilience and meet consumer demands.

BIOMANUFACTURING

Combining GIFS' platform technologies in Engineering Biology, sequencing (OPAL), Data Management and Analytics and Cell Biology, the Biomanufacturing Program will rapidly scale the research and development of new products for agriculture and food customers. That includes the creation of reagents, natural products, proteins and peptides that will make agriculture and food production more efficient and assist the development of potential new products and innovations.

POLICY AND REGULATORY

GIFS is supporting the widespread adoption of the innovative products and solutions its programs, partners and agri-food stakeholders are delivering. Through this program, we are identifying regulatory constraints or social barriers that may affect or delay the transfer of innovation and conducting research and outreach activities to support the creation and modernization of transparent, predictable and science-based regulations.

GIFS Strategy Map

Our VISION provides direction.

A world where everyone has access to safe and nutritious food – that's our vision.

Our MISSION creates focus.

We work with partners to discover, develop and deliver innovative solutions for the production of globally sustainable food.

Our VALUES help support our vision and guide our behaviours, shaping our culture and identity.

Innovation | Excellence | Collaboration | Integrity | Equity, Diversity and Inclusion

STRATEGIC INTENT

GIFS is creating value to advance food security through impact, scale, synergy and sustainability.

STRATEGIC DRIVERS

IMPACT:

Aligning impact with mission helps us understand and meet customer needs and inform future investment decisions.

SCALE:

Building scale supports strategic growth within a sustainable framework.

SUSTAINABILITY:

Integrated sustainability (environmental, economic and social) creates long-term value.

SYNERGY:

Synergy helps create a value culture that is complementary and helps drive teamwork, open communication and results.

GIFS GOALS

FINANCIAL

- Grow revenue/ resources
- Diversify revenue/ resource sources
- Practice excellent financial stewardship

EXTERNAL STAKEHOLDER

- Collaboratively advancing food security through the discovery, development and delivery of innovative solutions
- Enhance profile, reputation, and awareness of GIFS
- Globally recognized preferred research partner

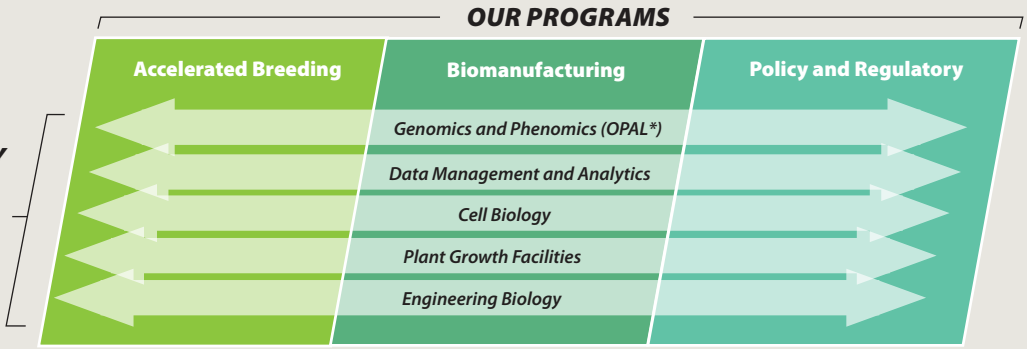
INTERNAL

- Expand research capabilities and capacity
- Increase institutional effectiveness
- Enhance internal synergy

LEARNING & GROWTH

- Multidisciplinary, solution-oriented, entrepreneurial approach to research
- Attract, retain and develop talent
- Continuous learning culture

SCIENCE MATRIX



*OPAL: Omics and Precision Agriculture Laboratory

GIFS Board of Directors

The Board of Directors of the Global Institute for Food Security (GIFS) consists of highly engaged, supportive members with skills and expertise in a variety of fields that strengthen the growth of the institute. This support and strength is vital to enhancing GIFS' profile and adds important value to its reputation.

Alanna Koch
Board Chair

Lorne A. Babiuk
Board Vice-Chair

Timothy Hawryluk, Q.C.
Corporate Secretary to the Board

Rick Burton
Deputy Minister,
Saskatchewan Ministry of Agriculture

Candace Laing
Former Senior Vice President & Chief Human Resources Officer, Nutrien
(Until June 2023)

Dr. Baljit Singh
Vice President of Research,
University of Saskatchewan

Marco Ferroni
Former Chair,
CGIAR System Board

Dr. Steven Webb
Chief Executive Officer,
GIFS

GIFS International Scientific Advisory Panel

The International Scientific Advisory Panel (ISAP) provides GIFS with independent expert science advice. The panel is made up of internationally recognized scientists in areas of expertise that align with GIFS' research and development areas of focus.

Margaret Gadsby, MSc, PAg
Chair; Dean's Advisory Board Member, Faculty of Science, McMaster University and former Global Head of Regulatory Affairs, Bayer CropScience Seeds Business, Canada

Joerg Bohlman, Phd
Professor and Distinguished University Scholar, Michael Smith Laboratories, University of British Columbia, Canada

Julia Bailey-Serres, PhD
Professor of Genetics, Department of Botany and Plant Cell Biology, University of California, Riverside, United States

Gijs van Rooijen, PhD
Chief Scientific Officer,
Genome Alberta, Canada

The late Kiran Sharma, PhD
Senior Director, Sustainable Agriculture at The Energy and Resources Institute (TERI), India

Prof German Spangenberg, FTSE PSM
Emeritus Professor, La Trobe University and former Head, Agriculture Victoria Research, Australia; Director of AgriBio, Centre for AgriBioscience, Australia

GIFS Grower Advisory Panel

The Grower Advisory Panel provides GIFS with expert advice on food producers' science and technology needs, industry market trends and recommendations on how best to translate science into impactful solutions for producers.

Alanna Koch,
Chair,
GIFS Board of Directors
Saskatchewan

Dr. G. Kee Jim
Managing Director,
Feedlot Health & GK Jim Group of Companies
Alberta

Jack Froese
Board of Directors,
Canadian Canola Growers Association
Manitoba

Chantelle Donahue
Vice President,
Global Lead, Value Chain & Trade, Nuseed
Saskatchewan

Kristjan Hebert
Managing Partner and CEO,
Hebert Grain Ventures
Saskatchewan

Maurice Delage
President and CEO,
Delage Farms
Saskatchewan

GIFS Executive Leadership Team (ELT)

The ELT leads GIFS in the execution and delivery of its goals and its corporate strategic plan.

Dr. Steven Webb
Chief Executive Officer, GIFS

Tina Murdock
Executive Officer

Dr. Nancy Tout
Chief Scientific Officer

Chris Knihnitski
Chief Financial Officer

Olufunke Okochi
Director of Stakeholder Engagement and Communications

Chelsea Platzke
Head of People and Strategy

Year in Review 2022-23

GIFS IN NUMBERS

STAFF COUNTRIES
22

NEW STAFF RECRUITED
43

100+
Tours, meetings and speaking engagements with regional, national and global partners and stakeholders

55%
INCREASE IN TOTAL CLIENT NETWORK SIZE

CUSTOMER REVENUE GROWTH
22%
INCREASE

Message from the

Board Chair

Alanna Koch

There's never a dull moment in agriculture.

You're no doubt familiar with many of the changes, challenges and opportunities within our sector: everything from climate, limited resources and geopolitics to the need for effective science-based policies and regulations that enable access to the innovative tools and technologies advancing both agricultural research and production.

Amidst it all, Canada — and Saskatchewan in particular — stand out as safe and reliable sources of socially, economically and environmentally sustainable and nutritious food.

There is also much promise. As we look to tomorrow, there are incredible opportunities for us to build on this reputation and further enhance, optimize and grow the contributions we make to global food security. To get there, however, researchers and producers require broad collaboration and innovation throughout the ecosystem.

Enter GIFS.

As agriculture's innovation catalyst, GIFS is connecting the agri-food system and bridging the innovation gap to commercialization. Today, our organization is strategically positioned to work with agriculture and agri-food ecosystem partners to help discover, develop and deliver innovative solutions for the production of globally sustainable food. And this year, we did just that.

Throughout the 2022-23 fiscal year, GIFS built foundational and scalable technological infrastructure, investing in its future by attracting world-class talent and defining pathways to commercial success. The institute's ongoing leadership led to invitations to participate in trade missions, provide testimony to House of Commons committees and bring knowledge and perspective to various panels discussing policy, trade and agri-food innovation.

As an organization, GIFS saw both a return to normal and significant change this year. It resumed face-to-face meetings and the Grower Advisory Panel, constituted during the pandemic years, had the opportunity to meet in-person as well as visit and tour the institute for the very first time.

The OneGIFS team also made substantial gains in growing self-driven revenues, made strategic investments into unique technology platforms and attracted top-quality talent to lead these platforms. These are foundations and infrastructure that will deliver market-impacting innovations in the coming years.

I want to appreciate GIFS' Founding Partners - Nutrien, the Government of Saskatchewan and the University of Saskatchewan - for their leadership. The partnership is a wonderful example of how industry, government and academia can work together as a team to deliver innovation. Thank you for your continued commitment to GIFS' vision of a world where everyone has access to safe, nutritious food, and our purpose as agriculture's innovation catalyst.

I want to thank my Board colleagues for their insights and wisdom. Thank you also to the Grower Advisory Panel for ensuring we keep our end-users in sight and to the International Scientific Advisory Panel members for their deep knowledge and expertise. And thank you to CEO Steven Webb and his team for digging in this past year to meet and succeed our strategic goals and position the organization for future successes.

Message from the CEO

Dr. Steven Webb

The 2022-23 fiscal year was a profound one in the history of the Global Institute for Food Security and one in which, I am proud to report, our team excelled.

Through the stewardship of our Executive Leadership Team, guidance of our Board of Directors, dedication of our team members and the support of our Founding Partners, clients and Advisory Panels, we have grown significantly.

By almost every metric, our organization is making a greater, more positive impact than at any point in its history.

We have attracted highly skilled talent, invested in new technology and increased our capacity to serve partners and stakeholders in Saskatchewan, Canada and around the world. This has increased our profile, diversified and grown revenues and magnified our reach at home and abroad.

This did not happen by accident. We arrived at this juncture through the successful execution of our Corporate Strategic Plan. Introduced in 2020, it identified the path through which we will achieve organizational sustainability, live our Values and realize our Mission.

Thank you to our Board of Directors and Founding Partners — Nutrien, the Government of Saskatchewan and the University of Saskatchewan — for their continued endorsement of this strategy and GIFS' Vision of a world where everyone has access to safe and nutritious food.

Much acknowledgement must also be given to our extended network of partners, research collaborators, clients and advisory panels — including GIFS' International Scientific Advisory Panel and our Grower Advisory Panel — all of whom have informed our decision-making through this transformational period.

Just as importantly, thank you to all team members at GIFS. The past few years have seen us embark on much needed evolution and our team has always proven to be dedicated and inspired. Your accomplishments have not gone unnoticed.

As we look to 2024 and beyond, we will continue to advance our strategy at GIFS. After making significant investments over the past several years, we now enter the "Pay our Way" phase of our strategy in which we will drive new revenues, establish long-term partnerships and deliver innovative products and solutions.

You'll see evidence of that transition throughout this Annual Report; growth that is, of course, made possible by our world-class team who come to GIFS — and Saskatchewan — because of our mission, our unique model and the opportunities the province's dynamic and exciting agri-food and innovation ecosystem provides.

In 2022-23, GIFS introduced its three new science programs — Accelerated Breeding, Biomanufacturing and Policy & Regulatory — which you will learn more about in the pages of this report. Each one complements other services and organizations operating in this sector and, once operationalized, will help all of us to grow. These initiatives are still in development but they are powered by the investments and experience of our platform technologies and teams.

These are market-driven programs that will support the agriculture and food sectors from early-stage discovery and knowledge creation all the way through to end products.

In the past fiscal year, we also made significant progress on another major initiative that speaks to just that. The GIFS AgTech Enterprise (GATE) is a not-for-profit entity that will serve as the business window to GIFS. Through GATE, our organization can serve our partners and clients with more agility, form new companies, license intellectual property and develop new products and services for researchers and customers.

The GATE is a key complement of the *discover, develop and deliver* stages of the innovation pipeline. I look forward to sharing more information on the development of the GATE in future reports, and highlighting the successful partnerships and projects it will enable as we make progress towards our ambitious goals.

When discussing global food security, it's easy to focus on the significant challenges within agri-food, but we must not lose sight of the progress we have made and our remarkable capacity for innovation, research and development.

I am so excited and motivated by the collaborations, advancements and innovations GIFS and its partners are facilitating. Let's get to work.

OUR VISION

A WORLD WHERE EVERYONE HAS ACCESS
TO SAFE AND NUTRITIOUS FOOD

"I'm very proud to be part of the Cell Biology Platform at GIFS. The CBP team started doubled haploid and transformation pipelines in 2022 and now we are able to take our services to partners to support their breeding programs and contribute towards plant improvement. **It is rewarding knowing that our work helps plant breeders and producers** feed people with affordable, high-quality, nutritious food."

Dr. Madhavi Daida,
Senior Research Technician

Our Platforms

GIFS is an innovation catalyst. Our technology platforms support diverse projects, partners and stakeholders — increasing their capacity and providing access to leading-edge technology and insights that elevate research and development.

Through these activities, we are enhancing digital agriculture, accelerating plant breeding, increasing quality crop yield, building plant resilience to climate change and more.

Data Management and Analytics (DMA)

GIFS' Data Management and Analytics Platform (DMA) combines biology, biochemistry, computer science and mathematics to develop analytical methods and software tools for deciphering large, complex datasets of biological information. Complementing many of our other technology platforms, DMA analyzes and interprets the large volume of data these platforms generate. For example, the Omics and Precision Agriculture Laboratory's DNA sequencing capabilities generate enormous amounts of information that DMA translates, through bioinformatics, into structured, meaningful and useful data that our partners can apply to accelerate the research and development of new innovations that advance global food security.

High-Performance Computing Infrastructure

4,000

TERABYTES OF STORAGE CAPACITY

SEAMLESS PROCESSING OF

2,000

GIGABYTES OF NEXT-GENERATION SEQUENCING DATA PER WEEK

Omics and Precision Agriculture Laboratory (OPAL)

GIFS' Omics and Precision Agriculture Laboratory (OPAL) is a one-stop shop for plant analysis at the molecular level, combining genomics with phenomics, bioinformatics and precision agtech. Our genomics services can be used for microbial, animal or plant origin samples and include at-scale, short- and long-read capabilities. The first of its kind in Canada, this unique combination of technologies and our highly skilled talent help researchers to better understand how genetic information links to its phenotypic expression, improving the precision and accuracy of research.

OPAL Drives Innovation

In 2022-23, OPAL brought world-class technologies, data and services to partners around the world.

To meet the demand for its services, GIFS installed a new liquid handling system — the Hamilton NGS Star — that dramatically scales OPAL's ability to serve research and development projects.

Additional investments in the new fiscal year will further enhance the platform and its capacity to provide partners with access to relevant technology and detailed analyses.

OPAL
Omics and Precision
AGRICULTURE LABORATORY

Our Platforms

Engineering Biology

GIFS' newest platform is Engineering Biology. As the only engineering biology technology platform dedicated to agri-food and agriculture in Canada, our team is working to combine the power of automation and miniaturization, biology and computation to rapidly scale and speed up the design, build, test, learn and repeat phases needed in agri-food and agricultural research and development.

Engineering Biology Starts Building

In early 2023, GIFS attracted top talent to lead the scientific and business sides of the Engineering Biology Platform.

Drs. Megha Bajaj and Benjamin Scott are helping develop this new platform that is part of an exciting and burgeoning field of research and development.

Bajaj, pictured above, is supporting the platform as a Business Lead, part of GIFS' Business & Innovation team that is helping to drive the institute's strategy forward, foster new partnerships, develop intellectual property and more.

"I look forward to contributing to the growth of this one-of-a-kind technology platform, and to helping our clients rapidly scale the discovery, development and delivery of more nutritious and sustainable crops and food products," said Bajaj.

As Platform Lead, Scott, pictured below, is building out the technology and talent that will serve as the platform's foundation.

"GIFS has a growing reputation for delivering world-class research services, such as data management and analysis, gene sequencing, and plant resilience. I look forward to helping expand GIFS' technology and talents to grow Canada's engineering biology capabilities," said Scott.

Cell Biology

GIFS' Cell Biology Platform is a plant transformation service that produces plants with novel traits to advance crop research. The platform provides researchers access to a practical tool for crop improvement in breeding programs. The talented team in the Cell Biology Platform advances the understanding of basic genetic functions of model plants and helps develop crops with important characteristics.

CELL BIOLOGY AT WORK

- DOUBLED HAPLOID LINE PRODUCTION
- PLANT TRANSFORMATION SERVICES

Plant Growth Facilities

GIFS' Plant Growth Facilities Platform provides plant growth space, plant production supplies, Integrated Pest Management (IPM) solutions, plant staking, labelling and harvest services, plant crossing and bagging and seed-increase services.

6,950
SQUARE FEET OF GREENHOUSE SPACE

1,200
SQUARE FEET OF GROWTH CHAMBER SPACE

Dr. Achala Bakshi,
Postdoctoral Fellow,
Resilient Agriculture

Program Spotlight

Accelerated Breeding

GIFS is mobilizing our technology platforms to deploy an Accelerated Breeding Program that will provide diverse organizations with access to new technologies and strategies to enhance plant and livestock breeding.

The program's goal is to help public and private breeders more rapidly deliver new innovations that support the economic, environmental and social sustainability of farm operations.

After all, everyone needs to eat and that demand for food — and need for innovation — is growing every day.

Why Accelerated Breeding?

In 2022, the world population exceeded eight billion people — a tally that is forecast to grow by an additional one billion in just a few decades. That's compounded by limited land, increased water use and elevated temperatures caused by climate change, all of which are already negatively affecting food production and trade in some geographies.

To meet the challenge and support sustainable agriculture, the agri-food sector must increase production and stay ahead of the curve; producing agri-food products with desired traits that are acclimated to changing growing conditions.

That's no small feat. In the crop sector, many researchers believe the current rate of productivity gain delivered by conventional plant breeding strategies must double to sustain and grow yields in a changing environment.

What is Accelerated Breeding?

Accelerated Breeding describes a suite of technologies and strategies that leverage GIFS' proven genotyping, phenotyping and bioinformatics expertise — capacity that GIFS has built and demonstrated through our scientific platforms.

When applied at scale, our Accelerated Breeding Program will help shorten the breeding cycle, enable breeding to changing environments, enhance the rate of genetic gain and improve sustainable food production by delivering higher-quality and higher-yielding varieties, products and innovations faster.

Accelerated Breeding Encompasses:

- Rapid drive to homozygosity using speed breeding and/or doubled haploid technology
- Using genotypes to predict performance through genomic selection
- Optimizing genetic gain per dollar spent using computer simulations of breeding programs

These strategies have already been verified and used by large, multinational animal and plant-breeding organizations: first in the dairy sector a generation ago and since then in major commodities like corn and soybean. Today, they are employed in breeding programs by all major agriculture companies.

Why GIFS?

GIFS has the innovative technologies and highly skilled team to make accelerated breeding accessible to organizations that cannot develop these technologies on their own.

From our base in Saskatoon, a thriving hub of agricultural research, development and production, we will provide partners with access to these advanced technologies and strategies, where they will be applied to a diverse set of valuable commodities in Canada for the first time.

While these partnerships are an important part of GIFS' growth, they also elevate our entire ecosystem.

Through our Accelerated Breeding Program, GIFS and its partners will improve the ratio of investment to impact and deliver tangible outcomes for agricultural producers. These innovations will help to prepare producers for today and tomorrow's challenges while building on Canada's reputation as an influential global leader in the production of safe, high-quality, nutritious food.

Our People

Our team at GIFS consists of about 80 individuals from 22 countries across the world. With diverse backgrounds, skills and experiences, our dynamic and enterprising team has adapted and grown through the institute's evolution to fulfil our Purpose of being agriculture's innovation catalyst, as well as our Mission to work with partners to discover, develop and deliver innovative solutions for the production of globally sustainable food.

Throughout it all, the team has excelled thanks to individuals across the organization who have provided leadership and input to foster collaboration, recognize excellence, promote safety and support the growth and development of their colleagues and an aligned OneGIFS culture.

GIFS Gracias

GIFS Gracias is GIFS' peer-to-peer recognition program that empowers anyone at GIFS to nominate a colleague for recognition and reward.

Since its launch in 2020, over 160 Gracias Awards — consisting of gold, silver and bronze acknowledgments, as well as thank-you recognitions — have been presented to team members. These acknowledgements recognize and celebrate outstanding individual accomplishments and team efforts, as well gestures that exemplify GIFS' values and promote a safe and inclusive workplace.

GIFS Gracias
Employee Recognition Program

Promoting Connections and Sharing Opportunities

97%

of GIFS Team Members completed the voluntary employee engagement survey in March 2022, helping to inform initiatives benefiting both the science and people at GIFS, including the development of a new orientation session for Team Members.

97%

of GIFS Team Members have now completed the GIFS orientation session, which was launched in May 2022. The engaging half-day session provides Team Members with opportunities to learn more about their colleagues, GIFS' diverse operations and the opportunities, benefits and supports available to them as part of the GIFS community at the University of Saskatchewan.

Promoting Engagement

GIFS is committed to fostering a dynamic and collaborative environment by continuously enhancing communication and engagement across our organization.

The institute established a number of initiatives focused on enhancing internal synergy, celebrating accomplishments, building a continuous learning culture and growing an engaged team. Insights from our 2022 employee engagement survey led to the creation of special project teams of cross-sections of staff who are working together to promote work-life balance, build awareness of total rewards, increase use of the available health and wellness resources, share information about key initiatives within GIFS and grow cross-team collaboration.

In addition, GIFS' Employee Engagement and Social Committees, monthly staff meetings, newsletters, open feedback channels and established recognition and safety systems, provided opportunities to grow alignment and engagement within the OneGIFS team in 2022-23.

Focus on Safety

In 2022-23, GIFS launched a new employee-led Safety Committee consisting of individuals representing the various teams throughout the organization.

The committee is promoting a culture of safety across the institute by inspecting workspaces, making recommendations to enhance safety and communicating best practices to all, among other responsibilities.

The active committee has completed inspections of all GIFS' workspaces and will be supported in 2023-24 with training opportunities and a dedicated focus on safety, wellness and compliance across the organization.

As part of their Growth and Performance Plans, all GIFS team members will identify personal safety- and wellness-related goals to enhance their work-life balance and foster a best-in-class safety culture at GIFS.

Empowering Leadership

A new initiative at GIFS is bringing together both team and thought leaders from across the organization.

Established near the end of the fiscal year, the GIFS Leadership Team (GLT) promotes enhanced communication and collaboration across our organization.

Through regular touchpoints, the 15-member group serves as a sounding board for GIFS' Executive Leadership Team, providing feedback and insights to inform the organization's strategic priorities. GLT members are also ambassadors who share important information about GIFS back to team members throughout the institute and its network of stakeholders.

"The Team is a cross-section of leaders from across the institute helping to build the alignment and culture throughout our OneGIFS team," said Olufunke Okochi, Director of Stakeholder Engagement and Communications.

GLT members represent all of GIFS' programs, platforms, research initiatives and administrative teams. In addition, they bring diverse backgrounds in academia, early-stage research, business, intellectual property, human resources and more.

"The members of the GIFS Leadership Team will serve as a conduit of information throughout the institute and will work as one team to help lead and ensure we are fulfilling our mission and vision," said Okochi.

GIFS Leadership Team

Dr. Megha Bajaj, Business Lead

Pete Burnett, Business Lead

Dr. Yu Chen, Platform Lead, Plant Growth Facilities

Dr. Raju Datla, Lead, Resilient Agriculture

Austin Hammond, Platform Lead, Omics and Precision Agriculture Laboratory

Kevin Koh, Platform Lead, Data Management and Analytics

Dr. Leon Kochian, Canada Excellence Research Chair in Global Food Security

Dr. Wendy Lyzenga, Research Scientist

Dr. Renata Fuganti Pagliarini, Platform Lead, Cell Biology

Carla Protsko, Business Lead

Dr. Benjamin Scott, Platform Lead, Engineering Biology

Dr. Andrew Sharpe, Bangabandhu Research Chair in Food Security

Dr. Ian Stavness, GIFS Enhancement Chair and Program Director, P^2IRC

Steven Xue, Technical Lead, Data Management and Analytics

A Growing Team

As GIFS entered the next phase of its strategic plan, the organization grew considerably. In 2022-23, the Human Resources team assisted in completing 43 recruitments — bringing world-class, enterprising talents to GIFS and Saskatchewan.

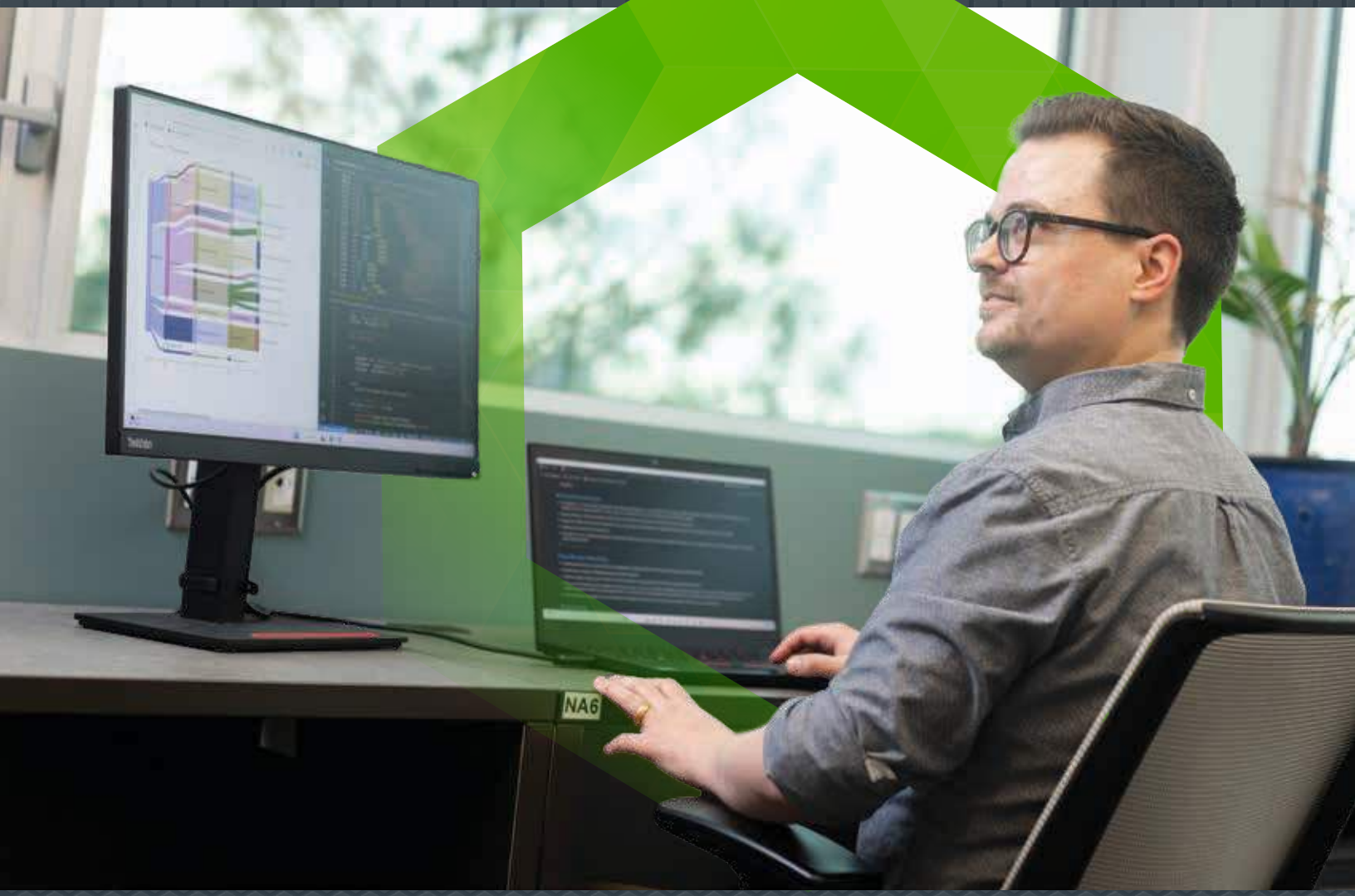
They include Dr. Nancy Tout, the organization's first Chief Scientific Officer. An experienced leader skilled in the discovery, development and registration of agricultural innovation projects, Tout, pictured below, is leading GIFS' research and development teams and is responsible for ensuring GIFS' initiatives — including its Accelerated Breeding Program — anticipate the needs of the agri-food sector and deliver value for GIFS' partners and stakeholders.

"I am excited at the opportunity to join GIFS and to work with a team of people dedicated to innovation and to delivering sustainable food security using Saskatchewan and Canada's strengths," said Tout upon joining GIFS in summer 2022.

"The institute's continued growth and focus on being a catalyst and connector in the agri-food ecosystem aligns with my commitment to collaboration and to working through partnerships to tackle the challenges of feeding a growing world."

OUR MISSION

WE WORK WITH PARTNERS TO DISCOVER, DEVELOP AND DELIVER INNOVATIVE SOLUTIONS FOR THE PRODUCTION OF GLOBALLY SUSTAINABLE FOOD



"As researchers ourselves, the DMA team is driven by a genuine commitment to improving research outcomes. Our focus is not limited to providing mere charts, but rather **delivering results and actionable information** that can effectively propel research and development projects forward."

Aren Boulet,
Bioinformatics Specialist

Our Community

Agriculture and community are inherently intertwined: One supports the other and, together, they grow. GIFS is proud to be part of the regional, national and global agri-food sector with contributions extending from research labs to farm fields to plates around the world, promoting the health, vitality and development of communities big and small.

Photo credit: Advancing Women in Agriculture Conference

Koch Receives Awards

Alanna Koch, a long-time champion of Saskatchewan's agriculture sector — and GIFS' Board Chair — was appropriately feted in 2022 for her years of service to industry and community.

In 2022, Koch, pictured above, was the recipient of both the **Queen Elizabeth II Platinum Jubilee Medal** and **Farm & Food Care Saskatchewan's Champion Award**, recognizing her years of service to agricultural producers and business and community development.

As an agriculture ambassador and experienced senior government executive, Koch served as both Deputy Minister to the Premier of Saskatchewan and Cabinet Secretary. Prior to that, she was the Saskatchewan Deputy Minister of Agriculture for nine years.

"There are so many who do so much and I'm just so honoured to be recognized as this year's Champion," Koch said in her acceptance speech at Farm and Food Care Saskatchewan's Ag Awareness Summit in December 2022.

"What better way to make a difference in the world than to champion the best people and the best industry? To be able to share our story of how we farm and why we need innovation and access to all the tools and technologies to sustainably feed the world is where so much of our focus has been the last 10 years, since the very first Ag Awareness Summit. We have come so far and made huge progress on getting our message out—and we have so much more to do."

Koch is the past recipient of the Queen Elizabeth II Diamond Jubilee Medal, a Saskatchewan Agricultural Hall of Fame induction and a Saskatchewan Centennial Medal.

Celebrating Agriculture

GIFS sponsored several agricultural events and organizations in 2022-23, including **Ag in Motion** and **Canadian** and **Saskatchewan Agricultural Halls of Fame**.

At the Canadian Agricultural Hall of Fame gala in November 2022, GIFS and Ag-West Bio supported the nomination and induction of Maurice Delage, an agribusiness leader from Saskatchewan and long-time support and builder within the biotechnology and canola industry.

Delage is also a member of GIFS' Grower Advisory Panel.

These initiatives are reminders of GIFS' roots and connections within Saskatchewan and Canadian agriculture. Each event is also an opportunity to spark connections amongst diverse stakeholders and promote opportunities to inspire the next generation of agri-food innovators and producers.

GIFS Volunteers

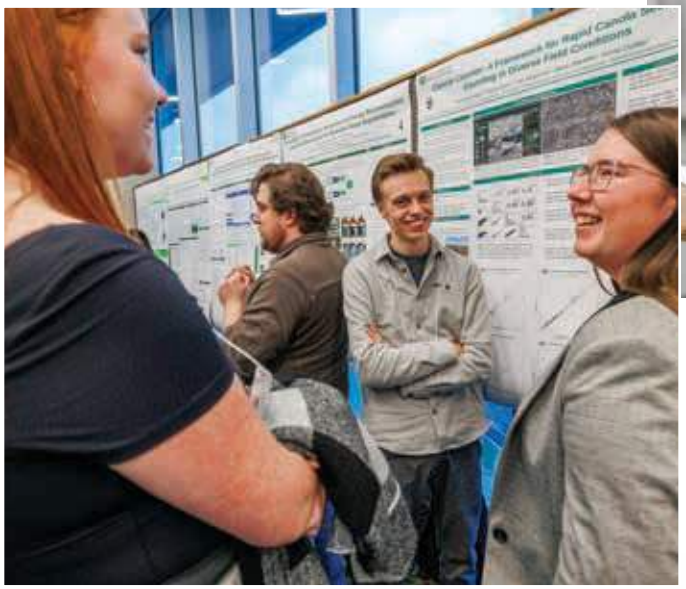
Food security impacts all communities, regardless of size or geography and GIFS' vision is a world where everyone has access to safe and nutritious food. In December 2022, GIFS' Social Committee co-ordinated an opportunity for team members from the institute to volunteer at the Saskatoon Friendship Inn, helping to prepare and serve meals for vulnerable members of our community during the holiday season. Our team, pictured left, was humbled to volunteer at the Friendship Inn, which supports the vision of a community without hunger by providing access to safe and nutritious food.

Our Network

GIFS is part of a dynamic agri-food and innovation ecosystem in Saskatchewan and Canada that extends to a network of laboratories, institutions, businesses and partnerships across the globe.

In 2022-23, GIFS was honoured to connect with many of these valued partners and stakeholders to share information, provide updates on key initiatives, collect input and feedback and identify opportunities for future collaborations.

Together, GIFS is working with these partners to advance science and innovation from Saskatchewan-out.



7th Annual Plant Phenotyping and Imaging Research Centre (P²IRC) Symposium

In October 2022, a sold-out audience attended the final Plant Phenotyping and Imaging Research Centre (P²IRC) Symposium.

As the initiative's seven-year mission, supported by the Canadian First Research Excellence Fund, nears completion, the event served as a reminder of P²IRC's significant scope, impact and reach.

More than 160 researchers, students and industry representatives were in attendance for the event, which explored the latest advances in imaging, phenomics, genomics, machine learning and more. The program was highlighted by keynote addresses from Dr. Valerio Hoyos-Villegas of McGill University and Dr. Danny Singh of Iowa State University, both of whom discussed advanced phenotyping and plant breeding.

The P²IRC Symposium also featured presentations on many P²IRC-supported research initiatives, including the development of PlotVision — a software-as-a-service that uses unmanned aerial vehicles to quickly assess large numbers of field plots and crop information for researchers. It also featured 40 research presentations from students, postdoctoral fellows and research associates participating in the Symposium's annual Poster Competition.

Reception with Members of Saskatchewan's Legislative Assembly

GIFS' Executive Leadership Team discussed the organization's ambitious work with Members of Saskatchewan's Legislative Assembly at a reception at the Saskatchewan Legislature in November 2022.

At the event, CEO Steven Webb, pictured above, provided updates on the institute's Corporate Strategic Plan, its world-class team and the many initiatives underway that will strengthen Saskatchewan's position as a global leader in agricultural innovation.

"We're bringing our expertise and technologies to bridge the gap between industry and academia and help make innovation happen," Webb told attendees.

"Our technology platforms are best in class, at-scale, cutting-edge technologies that enable us to do research at the scale of business and partner with government, academia and industry to bring new solutions forward."

Promoting Innovation and Sustainability

GIFS' reputation is growing alongside its people, technology and ability to catalyze innovation for the agriculture and food sectors.

In 2022-23, the organization — and its leadership — led more than 100 tours, meetings and speaking engagements with regional, national and global stakeholders across agri-food.

These events provided GIFS with opportunities to engage with diverse audiences in agriculture, science and business and to share information about the organization and its services, as well as Saskatchewan and Canada's capacity for innovation, collaboration and sustainable agricultural production.

At large international events and missions, including Future Food Tech (United Kingdom), Asia-Pacific Agri-Food Innovation Summit (Singapore) and Gulfood Inspire (Dubai), GIFS CEO Steven Webb addressed research and development, the potential of biomanufacturing and sustainable agriculture production in Saskatchewan and Canada. He also spoke to the importance of science-based regulations to support the widespread adoption of proven and safe innovations to help feed a growing world.

"The diversity of participants, the size of the event from industry to government and everything in between is such an interesting opportunity," Webb said in an interview while attending Gulfood Inspire in Dubai.

"(This) event is covering all the big topics and allowing us to have conversations in a forum that allows for new relationships to be built."

Agriculture's Sustainability Story

Regardless of geographic location, sustainability was a common topic at international events in 2022-23.

Across the globe, similar conversations are being held around agricultural production and its impact on the environment — all while the global demand for food continues to grow.

At numerous events across Canada and the world in 2022-23, Webb and other members of the GIFS team highlighted Saskatchewan and Western Canada's success with transforming the land from a greenhouse gas emitter to a net carbon sink through the adoption of effective innovation and farming practices that are economically, environmentally and socially sustainable.

These successes, to be published in a peer-reviewed article expected later in 2023, show the positive and sustainable impact of widely adopted agricultural practices in Saskatchewan and Western Canada, including minimal-till farming, herbicide-tolerant canola and the variable-rate application of fertilizer that allows producers to optimize their use of needed crop inputs.

In these and other conversations, GIFS representatives also discussed the safety and high quality of Canadian and Saskatchewan-grown commodities and the example the province provides other jurisdictions looking to adopt and promote regenerative agriculture.

"One of only a few net exporters of food in the world, Canadian producers employ a sustainable, intensive production system that uses modern technologies and practices in a manner that is economically, environmentally and socially sustainable," Webb said in Dubai.

"Through genetics, crop rotation, nutrient stewardship and other sustainable strategies, agricultural commodities from Canada — and Western Canada, in particular — are some of the least carbon-intensive agri-food products in the world."

Studying Sustainability

In spring 2022, the Government of Saskatchewan announced $2 million in new funding for GIFS.

The funding, provided through the Province's Ministry of Agriculture, has been entrusted to GIFS to define, accelerate, and communicate the agriculture sector's contributions to improved environmental outcomes.

As part of this initiative, a peer-reviewed article highlighting — and measuring — the impressive competitive advantage Canadian agriculture has earned in sustainability through widespread adoption of innovation is expected to be published in late 2023.

A Voice in Ottawa

On two occasions in 2022-23, leaders from GIFS were pleased to provide testimony and input to the House of Commons Standing Committee on Agriculture and Agri-Food, where they also addressed issues of sustainability.

In fall 2022, Webb spoke to the panel, led by MP Kody Blois, about Canada's capacity to contribute to global food security. In the spring, Board Chair Alanna Koch provided input addressing food price inflation.

Through these venues, Webb and Koch addressed potential policies that could increase Canada's capacity to deliver innovation. They also identified the need for transparent, science-based agri-food regulations that recognize the sustainable practices at work in agriculture today and protect the use of tools and inputs that have been demonstrated safe.

In April 2023, the Federal Committee published a report— *Feeding the World: Strengthening Canada's Capacity to Respond to Global Food Security* — based on the testimony of Webb and others across the agri-food sector.

It made 22 policy recommendations and recognized Canadian agricultural producers as global leaders in the efficient use of fertilizers, urging the federal government to not proceed with any mandatory fertilizer emissions reduction. A 2020 federal government plan set a voluntary national emission reduction target of 30-per-cent below 2020 levels.

"Last fall, I was honoured to be one of many representatives of agri-food organizations based in Western Canada that provided testimony to MP Kody Blois and the other members of the Standing Committee on Agriculture and Agri-Food," said Webb.

"I am encouraged to see much of our testimony documented in the report and reflected in the recommendations on important topics, including fertilizer use. Through the widespread adoption of no-till farming practices, nutrient stewardship, herbicide-tolerant canola and other innovations, Western Canadian growers produce some of the most sustainable grains and oilseeds in the world, which is recognized in these recommendations.

"I am hopeful the report will promote meaningful dialogue and transparent, science-based policies that support sustainable agricultural production and Canadian competitiveness while advancing science and innovation across this country."

First Sustainability Index Published

Collaboration makes it happen.

The National Index on Agri-Food Performance is an exceptional example of how players from across agri-food verticals can come together to advance Canadian agriculture — and GIFS is a proud founding member.

In 2022-23, the Index announced its first sustainability index. This announcement is an essential milestone in readying Canada's agri-food supply chains for the global disclosure standards coming in 2024.

The index has 20 indicators detailing over 130 metrics spanning environmental, food integrity, economic and societal well-being, that have been agreed to by the coalition, consisting of more than 150 members from all areas of the agri-food industry.

Learn more about the National Index on Agri-Food Performance at www.agrifoodindex.ca.

Promoting the Need for a Science-Based Regulatory Framework

Understanding the importance of regulations to enable the adoption of innovation, GIFS, along with other stakeholders across the agriculture and food sectors, has continued to be a strong advocate for the creation of a science-based, adaptive, predictable regulatory framework that considers the whole systems perspective.

The institute was pleased to see some progress: In May, the Canadian Food Inspection Agency (CFIA) published updated guidelines on gene-edited crops. The new guidelines put gene editing on the level of conventional crop breeding, representing a step forward for Canada's market competitiveness and global food security. GIFS supports the CFIA decision to use science-based policy for regulating crop gene-editing.

Coupled with 2022 updates by Health Canada to Canada's Novel Food Regulations, the announcement by CFIA opens the door in Canada to commercializing crops developed in a precise, effective and safer way, while also being more socially, economically and environmentally sustainable.

"The world needs gene editing alongside other safe and efficacious innovative technologies to help feed a growing global population under increasingly challenging growing conditions," said Webb.

"We consider the decision by the CFIA a positive move forward for Canada's competitiveness in global markets, and a critical step in our ability to feed a growing world within a rapidly changing climate.

"Canada is a leading global producer of sustainable, safe and highly nutritious food. Having a science-based regulatory framework ensures our crop breeders and producers can compete with regions that have already adapted gene-editing policy and accelerate current crop breeding programs with a suite of technologies that includes gene editing, machine learning, high fidelity drone imaging, speed breeding and automation."

OPAL Seminars

OPAL hosted two seminars in 2023, highlighting our sequencing capabilities and welcoming guests and researchers from across the world who attended in person or online.

The events brought together scientists from public and private organizations and leading biotechnology companies, including PacBio and Illumina.

Each seminar featured research updates from Western Canadian scientists, as well as discussions exploring advancements in genomics and the high-quality data and innovative services OPAL is delivering to partners through the application of cutting-edge sequencing technologies and data analysis through our bioinformatics pipelines.

"GIFS is committed to being a leader in the rapidly evolving "omics" fields while offering superior customer service to its clients. They demonstrated this leadership by moving quickly to have OPAL become the first core lab to offer HiFi sequencing in Western Canada and then followed this up by being the first core lab in Western Canada that will acquire PacBio's newest ultra high-throughput HiFi sequencer, Revio.

GIFS' OPAL team is always eager to learn new protocols that keep them up-to-date with the latest technologies and offerings for their clients. This commitment has resulted in a rapid rise in the demand for PacBio's HiFi sequencing that is continuing to expand."

– Alexander Cherniavsky, PacBio

GIFS' Dr. Raju Datla, centre, speaks with representatives of the Saskatchewan Wheat Development Commission (SWDC) during a tour of GIFS' Plant Growth Facilities. The SWDC is a funder of a project Datla is leading targeting reproductive and spike traits for improving grain yields in wheat.

Photo credit: Montana Getty / Sask Wheat

International Insights for Homegrown Solutions

As more and more activities delayed by the COVID-19 pandemic resumed, GIFS connected with both of its advisory panels in early 2023.

The International Scientific Advisory Panel (ISAP) met in-person for the first time since the start of the pandemic, while the Grower Advisory Panel (GAP) was able to visit and tour GIFS' facility for the first time.

During these meetings, GIFS leaders provided the panels with updates on key initiatives and the development of the organization's science programs.

In return, the panel shared insights on scientific innovations, challenges affecting agricultural producers and potential partnerships that will help those programs deliver market-driven outcomes that benefit researchers, growers and consumers.

Both panels will reconvene in the 2023-24 fiscal year for continued discussions.

Inauguration of Agricultural Technology Centre in Bangladesh

In early 2023, GIFS was pleased to announce the inauguration of an Agricultural Technology Centre at the Bangladesh Rice Research Institute (BRRI) in Gazipur, Bangladesh. This initiative was part of its ongoing partnership with the Bangladesh Agricultural Research Council (BARC) of the Bangladesh Ministry of Agriculture.

The inauguration of the agtech centre marks another milestone in the partnership's goal of delivering sustainable food security through programs in Bangladesh that are focused on enhancing farmer incomes, addressing the effects of climate change and strengthening the country's delivery of the United Nations Sustainable Development Goals, including reducing hunger and empowering women.

Based in Gazipur, Bangladesh, the agtech centre will offer programs to enhance crop breeding and plant improvement, advance soil health and quality, improve soil water retention, increase data management and analytics and deliver innovations for post-harvest food handling and processing — a specific area of concern for the country.

GIFS Partnership Produces First Sequenced Genome of Year-Round Jackfruit

In 2023, GIFS and its partners at the the Bangladesh Agricultural Research Council (BARC) and Bangabandhu Sheikh Mujibur Rahman Agricultural University (BSMRAU) announced the sequencing of a year-round jackfruit variety genome, making Bangladesh one of only a few southeast Asian countries to sequence a genome entirely.

This technological feat is an important outcome of the partnership, which aims to improve sustainable food security in Bangladesh while strengthening trade ties between the fast-growing country and the province of Saskatchewan.

"Jackfruit is the national fruit of Bangladesh and is an important source of nutrients for many Bangladeshi people, but its growing season is short, and the fruit's nutritional value has yet to be fully commercialized, so its impact on food security in the country has great potential," said Dr. Andrew Sharpe (PhD), Bangabandhu Research Chair in Food Security at GIFS, and pictured above.

Beef Industry Integrated Forage Management and Utilization (IMFU) Chair

GIFS was happy to join industry and government partners in creating the Beef Industry Integrated Forage Management and Utilization (IFMU) Chair at the University of Saskatchewan.

The Beef Industry IFMU Chair position is a collaboration funded through a collective of producer groups, the federal and provincial governments and others with an interest in realizing the true potential of forage crops. The effort will take a long-term commitment, which is structured into the resulting fund.

The funders' contributions will be grown with the university's other long-term investments. The investment earnings will be used to fund the Chair position for a full faculty member's career term, catalyzing and delivering the research and knowledge sharing in forage management that the industry needs.

The first Chair was announced as Dr. Bree Kelln (pictured above), a professional agrologist who has held leadership roles in agriculture that span across animal, plant and soil systems management.

Collaboration Key to Success of AI Sprayer Technology

Alongside Protein Industries Canada, Precision.AI, Sure Growth Technologies and Exceed Grain Marketing, GIFS partnered on a project to develop a precision artificial intelligence pesticide system that increases the efficient use of pesticides while maintaining crop yield.

The aim was to develop new ways to spray weeds or other pests in a targeted way. The partnership developed a way to find out precisely where the weeds are so that they can be sprayed more efficiently to reduce pesticide use and help protect the environment. A significant aspect of the project was developing software to automatically sort through drone images of fields to identify weeds, led by Dr. Ian Stavness, GIFS Enhancement Chair, Program Director and Lead Researcher for the Plant Phenotyping and Imaging Research Centre, which is managed by GIFS.

"PrecisionAI's new sprayer technology will improve the efficiencies of pesticides by enabling the precise use of the right product at the right place, in the right amounts and at the right time," said Stavness. "The technology can be retrofitted to existing pesticide sprayers, as well as to new sprayers, creating a product suitable for producers across Canada and enhancing economic, environmental and social sustainability for the sector."

Achievements and News

Investment for Biomanufacturing in Saskatchewan

In 2022, GIFS received a $2.5 million commitment from Prairies Economic Development Canada's Regional Innovation Ecosystems (RIE) program to support the development of its Biomanufacturing Program.

Once operationalized, the program will house Canada's first engineering biology facility dedicated to advancing sustainable agriculture and innovative food ingredients.

This new infrastructure will help Canadian researchers and processors better compete in agri-food industries, increase the pace of research into sustainable agriculture, attract foreign investment to Canada and supply training in this growing field of research and development — all while creating high-quality jobs in Saskatchewan.

This expansion will combine genomics, machine learning and automated biology to create proteins, peptides and metabolites. These building-block technologies can help food last longer, make plants more resistant to disease, reduce allergens or improve nutrition in food products.

"Adhering to the "A, B, C,'s" of biomanufacturing — automation and miniaturization, biology, and computation – this unique technology platform helps reduce the time it takes to trial innovative solutions and get them to market," said Steven Webb, CEO.

"Once online, the platform will decrease the room for error through automating lab processes, boast a deep understanding of biological structures and processes and add powerful computing solutions, like artificial intelligence, to rapidly scale up the design and production of more nutritious and sustainable crops and food products."

"Adhering to the "A, B, C,'s" of biomanufacturing — automation and miniaturization, biology, and computation — this unique technology platform helps reduce the time it takes to trial innovative solutions and get them to market,"

– Steven Webb, CEO

Students Training for the Future in Agriculture Technology

Dr. Ian Stavness (PhD), Professor in Computer Science at the University of Saskatchewan and GIFS Enhancement Chair, is leading a new initiative that will support the training and collaboration of plant and computer scientists.

The six-year initiative, supported by a $1.6 million grant from the Natural Sciences and Engineering Research Council of Canada (NSERC), will offer cross-disciplinary training in agricultural and computer science to 87 graduate students who will collaborate on research in agriculture and technology.

"I think one of the critical aspects of this program is the cross-training component. Plant Science students will be trained in data science approaches and programming — areas where they wouldn't [traditionally] have core training," said Stavness, pictured above.

"And the computer science students will get training in biology, plant genomics and plant breeding and other core topics they haven't been exposed to before."

Students in the NSERC CREATE grant in Computational Agriculture program will receive professional development and entrepreneurship training through GIFS.

"Their experiences will be enriched through those rotations and internships. Through those, they will get a better sense of the real needs for agtech companies, organizations, growers and agronomists," said Stavness.

"Those needs will certainly drive a lot of the research problems that we will pursue so they can really tackle the most important problems that will have the most impact in the sector."

OUR VALUES

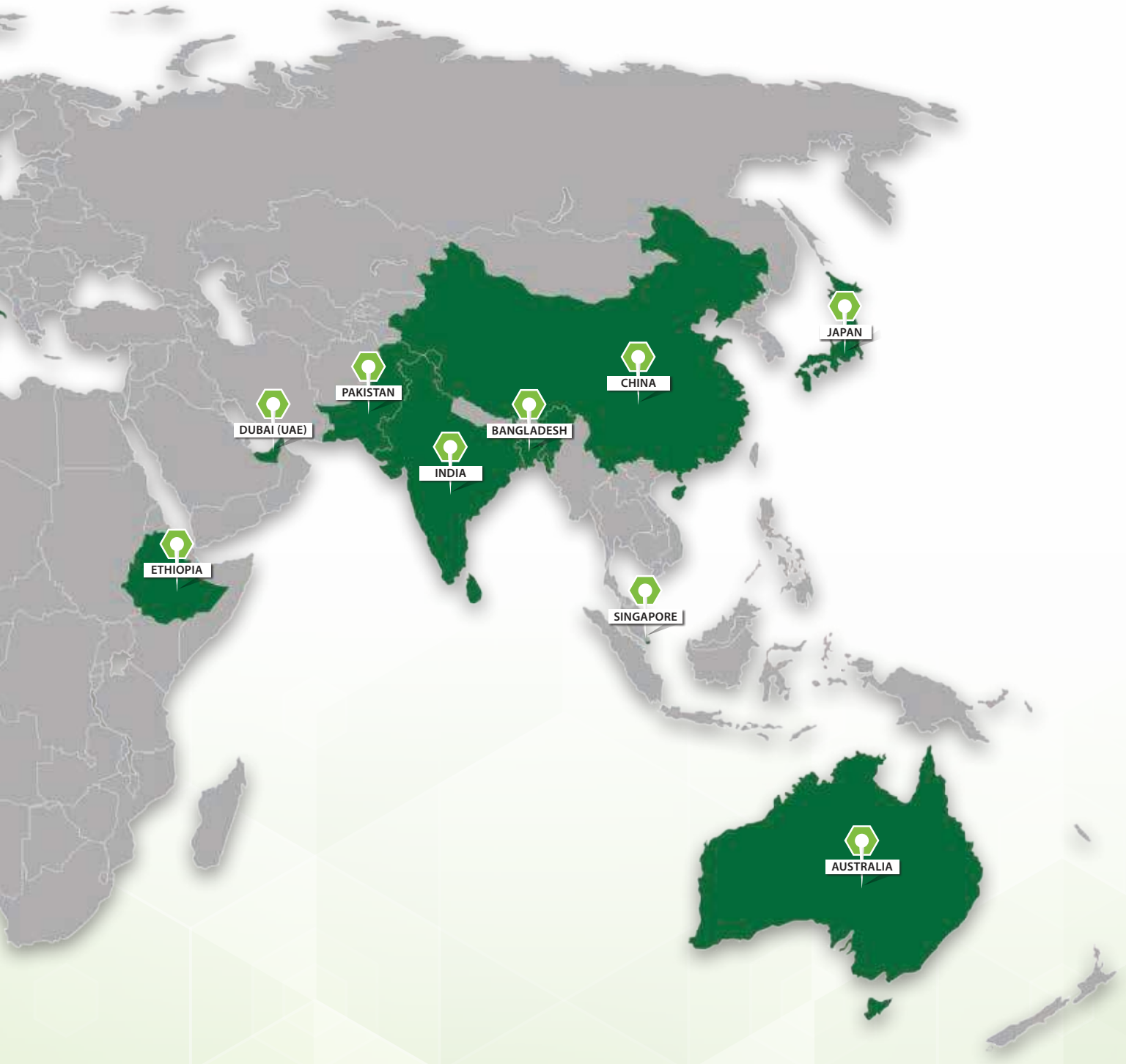
INNOVATION: WE CREATE, DEVELOP AND EXECUTE NEW IDEAS THAT WILL ADD VALUE TO GIFS AND EXTERNAL STAKEHOLDERS

"There are not many labs in Western Canada that have the sequencing instruments and platforms that GIFS does. **Our lab is the first lab to have two PacBio third-generation sequencing instruments.** Through becoming proficient with the second- and third-generation sequencing workflows, my knowledge and experience in genomics have expanded tremendously. The data gathered from sequencing instruments is advancing numerous agricultural research projects and I am happy to contribute positively toward these research projects and our institute's mission."

Saruul Uuganbayar,
Research Technician, OPAL

GIFS' Global Connections

GIFS is partnering with researchers and organizations across the globe to discover, develop and deliver innovative solutions for the production of globally sustainable food.


JAPAN
CHINA
PAKISTAN
DUBAI (UAE)
BANGLADESH
INDIA
ETHIOPIA
SINGAPORE
AUSTRALIA

Financial Highlights

for the year ended April 30, 2023

The 2022-23 fiscal year was one of continued growth for GIFS in which the institute made significant strides towards it strategic and financial goals.

Driven by its Strategic Plan, GIFS recorded a 22-per-cent increase in service revenue over the previous fiscal year, representing the most diversified revenue stream in the institute's history.

Enhanced service revenues are a key part of GIFS' strategy to promote organizational sustainability and foster new partnerships. Alongside the investment from its founding partners and revenues from granting agencies, this segment of GIFS' operations is bringing leading-edge technologies and services to Saskatchewan, helping the organization to further extend its reach across the agri-food and innovation ecosystem and maximize its impact.

Growth through Technology Platforms

In 2022-23, service revenues were supported by GIFS' Omics and Precision Agriculture Laboratory (OPAL) and its Data Management and Analytics platforms, which grew revenues by 33 per cent from the previous fiscal year. This growth was assisted by sizable investments — reflected in GIFS' net deficit — that brought new technologies and efficiencies to the organization, enabling GIFS to bring sought-after sequencing services to more researchers and organizations than ever before.

Excellence in Research

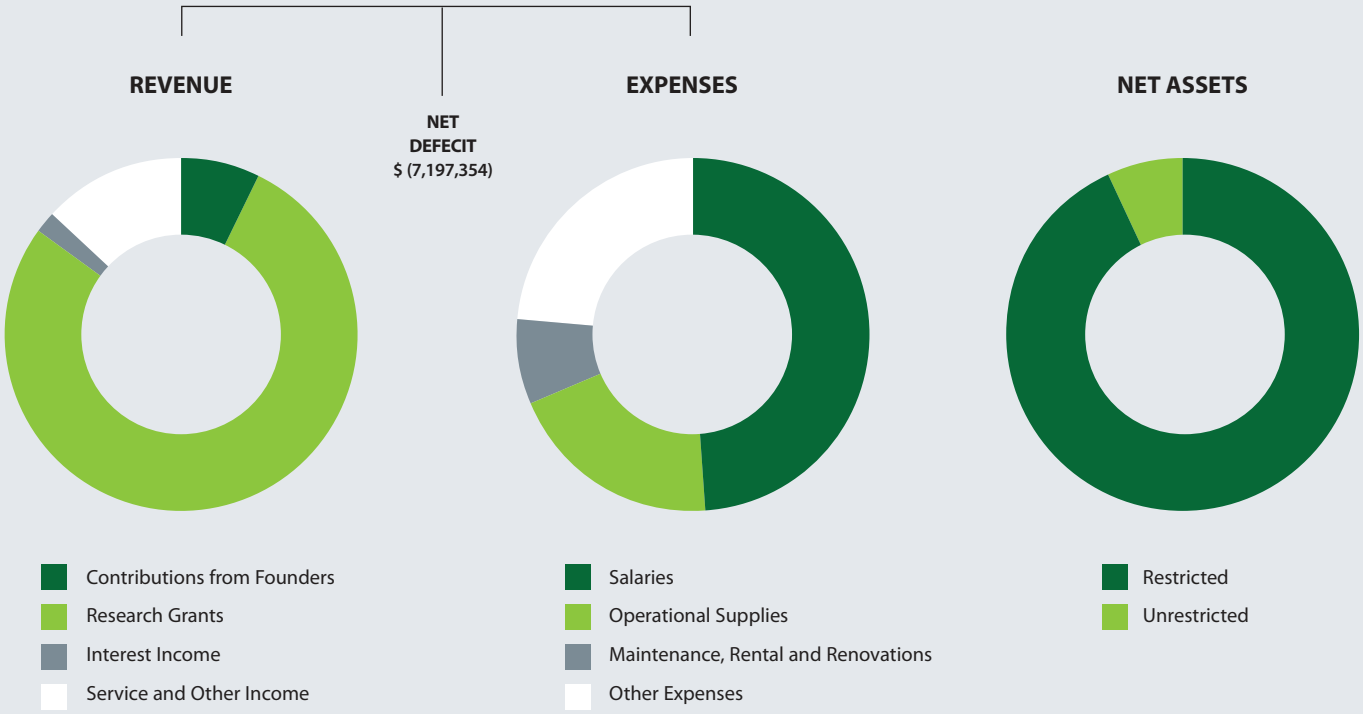
For the 2022-23 fiscal year, GIFS obtained $9.3 million in research grant revenue and continued to fulfill its commitments to the Canada Excellence Research Chair Program at GIFS that will remain active through June 2024.

The 2022-23 financial highlights also include a $2 million award from Saskatchewan's Ministry of Agriculture to support work defining and communicating the agriculture sector's contributions to improved environmental outcomes, as well as investments to build Canada's first biomanufacturing laboratory dedicated to agri-food innovation.

Financial Highlights at a Glance

FOR THE YEAR ENDED APRIL 30, 2023

REVENUE	**2022**	**2023**
Contributions from Founders	$ 3,500,000	$ 875,000
Research Grants	14,349,895	9,293,456
Interest Income	164,317	218,418
Service and Other Income	1,660,712	1,552,536
Subtotal	**$ 19,674,924**	**$ 11,939,410**
EXPENSES		
Salaries	$ 9,626,549	$ 9,362,887
Operational Supplies	3,815,121	3,792,707
Maintenance/Rental/Renos	1,195,784	1,503,632
Other	3,487,251	4,477,538
Subtotal	**$ 18,124,705**	**$ 19,136,764**
Net Income (Deficit)	**$ 1,550,219**	**$ (7,197,354)**
NET ASSETS		
Restricted	$ 23,571,097	$ 20,370,200
Unrestricted	5,492,732	1,496,275



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