

2023 Annual Report



Option Year 4
MonTEC

Contract #:
73351019C0005



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About the Montana Bioscience Cluster Initiative

The Montana Bioscience Cluster Initiative (MTBSCI) is a multidimensional program with seasoned stakeholders from the private sector, university, economic development, trade associations and others with boots on the ground providing technical assistance as well as support, training, and mentoring to new and established life science businesses entrepreneurs and students

The MTBSCI consists of four key components.

1. A platform to facilitate peer-to-peer engagement and messaging to the world about Montana's strengths in meeting critical location factors and providing intellectual capital for the bioscience industry.
2. Workforce development programs that align precisely with existing and anticipated industry needs.
3. Ongoing technical assistance to create a holistic continuum of support from startup ideation to export assistance.
4. A gap fund, "The 4th F Fund," is used to provide direct assistance to bioscience entrepreneurs in need of money for travel to key conferences, small equipment purchases, temporary staff assistance in relation to proposal development, etc. This fund is designed for maximum flexibility in support of bioscience entrepreneurs. Beneficiaries will be asked to pay it forward should their commercial endeavor prove viable and profitable.

1st

Montana ranked
in the nation for
bioscience employment
percentage growth
between 2016-2020

*Select USA - Cluster Mapping
Project, 2023 data pending*



Left to Right: Mike Pokorny, Co-Founder & VP, Amber Norbeck, Co-Founder & CEO, and Thomas Hoffmann, Automation Engineer of Opio Connect. Pictured with Zing, a robotic system for assembling and delivering methadone doses



Introduction to Annual Report

Montana's bio firms continued to secure capital and grow in 2023, actively contributing to groundbreaking advancements in various medical fields, such as new novel diagnostic tests for early detection of Leukemia, Alzheimer's, or prostate cancer, vaccines for fentanyl and heroin overdose, and fungicides to increase the resilience to drought and insect pests to agriculture and forestry. Simultaneously, the state's universities demonstrated unprecedented investment levels in bioscience research, laying the foundation for future growth in both small and medium-sized enterprises (SMEs) and major companies. With continued investment and support, Montana's bioscience sector is poised to make even greater strides in the years to come, improving lives and shaping the future of healthcare and agriculture.

This impressive growth is not only a testament to the talent and ingenuity of Montana's scientists and entrepreneurs, but also to the state's commitment to fostering a vibrant and innovative bioscience ecosystem. With its supportive partners, access to natural resources, and growing talent pool, Montana is well-positioned to become a national leader in the bioscience industry.

This report highlights select activities undertaken by Montana Bioscience Cluster Initiative partners in 2023 in order to foster the growth of bioscience in Montana. For ease of tracking, we have included business metrics summaries followed by highlights from our quarterly reports which best exemplify deliverables noted in our proposal.



Renee Rioja Pera, President of McLaughlin Research Institute for Biomedical Studies in Great Falls, MT. Photo by Great Falls Tribune.

Home to **McLaughlin Research Institute**

a center for neurogenetic
research on Alzheimer's,
Parkinson's, and other
degenerative nerve diseases



Metrics at a Glance

Key metrics for the Montana Bioscience Cluster Initiative 2023 contract year are below. On the next few pages, we address the metrics in detail that were specifically requested by the U.S. Small Business Administration.



1266

**ATTENDEES IN
CLUSTER
ACTIVITIES**

55

**CLUSTER
MEMBERS
ADDED**

47

**NEW
BIOSCIENCE
STARTUPS**

89

**NEW PATENTS
APPLIED OR
OBTAINED**

580

**SMALL
BUSINESSES IN
PARTICIPATION**





SBA Metrics

1. GROWTH IN NUMBER OF SMALL BUSINESSES PARTICIPATING IN CLUSTER PARTNERSHIPS AND INDUSTRIES

Throughout the final option year, the Montana Bioscience Cluster Initiative partner activities, trainings, and events drew in **over 1266 participants** including small businesses, faculty researchers, students, and entrepreneurs engaged in bioscience in Montana. We estimate **580 represented small businesses**.

In 2023, MTBSCI **added 55 new small businesses to the cluster, an increase of 45 new small businesses to the cluster**. A comprehensive accounting of activities continued or established to improve service delivery, outreach, and technical assistance to small businesses is included in the attached report.





SBA Metrics

2. NUMBER OF SMALL BUSINESSES RECEIVING COUNSELING, TRAINING, MENTORING, OR OTHER TECHNICAL ASSISTANCE

Approximately 79 small business cluster participants and **over 1100** faculty, student researchers, and other entrepreneurs (non-cluster small businesses) participated in cluster activities including training, mentoring, counseling, and technical assistance. There were **32 training opportunities** (plus 11 matchmaking, networking, or showcasing) offered in 2023 by the Montana Bioscience Cluster Initiative.



32 Training
Opportunities



SBA Metrics

3.

NUMBER OF SMALL BUSINESSES PARTICIPATING IN OTHER ACTIVITIES AND SERVICES PROVIDED BY THE CLUSTER

There were **580 small businesses** that participated in activities and services provided by the cluster, including showcasing events, networking events, matchmaking opportunities, and other convening activities, an increase of **42% from 2022**.

- As outreach and collaborations with other industries, such as photonics, healthcare, high-tech, and bio-agriculture continue to draw a spectrum of small business participants to our cluster activities and events, we are beginning to see more participants that may not necessarily fall under the specific NAICS codes we might use for our reporting purposes. MTBSCI outreach efforts are effectively capturing small businesses that are providing wrap-around solutions to the bioscience industry, further amplifying the economic impact of bioscience cluster support.

580 Small
Businesses

MWTC meeting with Maruho at the
Innovation Campus in Bozeman with Mark
Sharpe, Innovation Campus Director



MTBSCI 2023

Activities



Startup Bootcamp	Training/workshop
Scaling Biotech Companies in Montana	Training/workshop
Making Sense of SBIR/STTR Cost Proposals	Training/workshop
Going Global – Case Study on Oman	Training/workshop
Bioscience Reception at the Capitol	Showcasing
Developing Different Kinds of Minds: Science and Neurodiversity	Training/workshop
Beyond UM: Career Exploration Summit	Training/workshop
Photonics West	Matchmaking
Site Selector Q1 Webinar	Matchmaking
USDA NIFA Webinar	Training/workshop
Select USA	Matchmaking
Global Sourcing & Import Best Practices	Training/workshop
Working with Freight Forwarders	Training/workshop
Top Five Cybersecurity Threats for SMEs Doing Business Internationally	Training/workshop
Regulated Export Training	Training/workshop
Fusion Lecture Series	Training/workshop
BIO Convention	Matchmaking
Montana Economic Developer's Association Spring Conference	Training/workshop
HOSA (Future Health Care Professionals) Statewide Conference	Networking
Billings Schools Healthcare Immersion Day	Matchmaking
NIH Technology Development and Commercialization Partnership Opportunities	Training/workshop
Site Selector Q2 Webinar	Training/workshop

PNW I-Corps and WE-REACH Biomedical Innovation Panel	Training/workshop
Hellgate Venture Network	Networking
Partnerships in Education – Supporting Innovation and Entrepreneurship in the Flathead Valley	Training/workshop
Biomedical Regulatory Strategy and Product Development	Training/workshop
Identifying SBIR/STTR Topics Workshop	Training/workshop
Federal Funding Opportunity Webinar	Training/workshop
USDA SBIR/STTR Proposal Lab	Training/workshop
Bioscience Valuation to Facilitate Fundraising, Licensing, and Acquisitions Webinar	Training/workshop
SBIR/STTR Programs at the Department of Defense	Training/workshop
Success Factors for Technology Transfer Start-Up Companies	Training/workshop
SBIR/STTR Discovery Lunch & Learn at the University of Montana and Montana State University	Training/workshop
BioJapan Tradeshow	Matchmaking
Early Stage Summit	Matchmaking
Regulated Export Strategies	Training/Workshop
MEDICA Tradeshow	Matchmaking
Council of State Bioscience Associations	Training/Workshop
Student Health Care Summit – Professional Development Day	Matchmaking
MT Bioscience Annual Meeting	Training/Workshop
2023 Innovation Ecosystem Summit	Training/Workshop
Pathways to Health Equity: Access to Clinical Trials in Rural Communities	Training/Workshop
Fusion Lecture Series	Training/Workshop



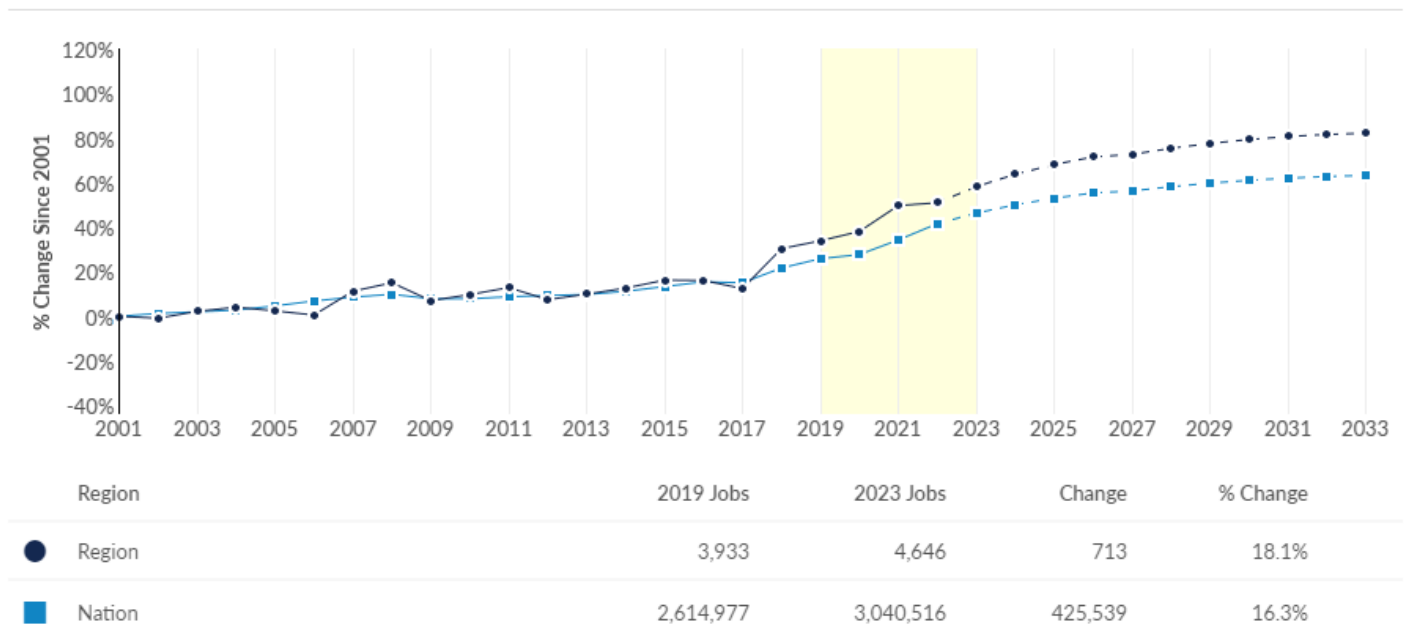
SBA Metrics

4. NUMBER OF NEW JOBS/SUMMARY OF GROWTH IN EMPLOYER SMALL BUSINESSES

The period from 2022 to 2023 saw the creation of **15 net new bioscience jobs** in Montana, growing the total number of jobs in the cluster to approximately 4,646 from 4,631. From 2019-2023, the **total number of jobs grew by 713**.

3,933 Jobs (2019) 55% below National average	+18.1% % Change (2019-2023) Nation: +16.3%	\$109,644 Avg. Earnings Per Job (2022) Nation: \$147,694
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Regional Trends

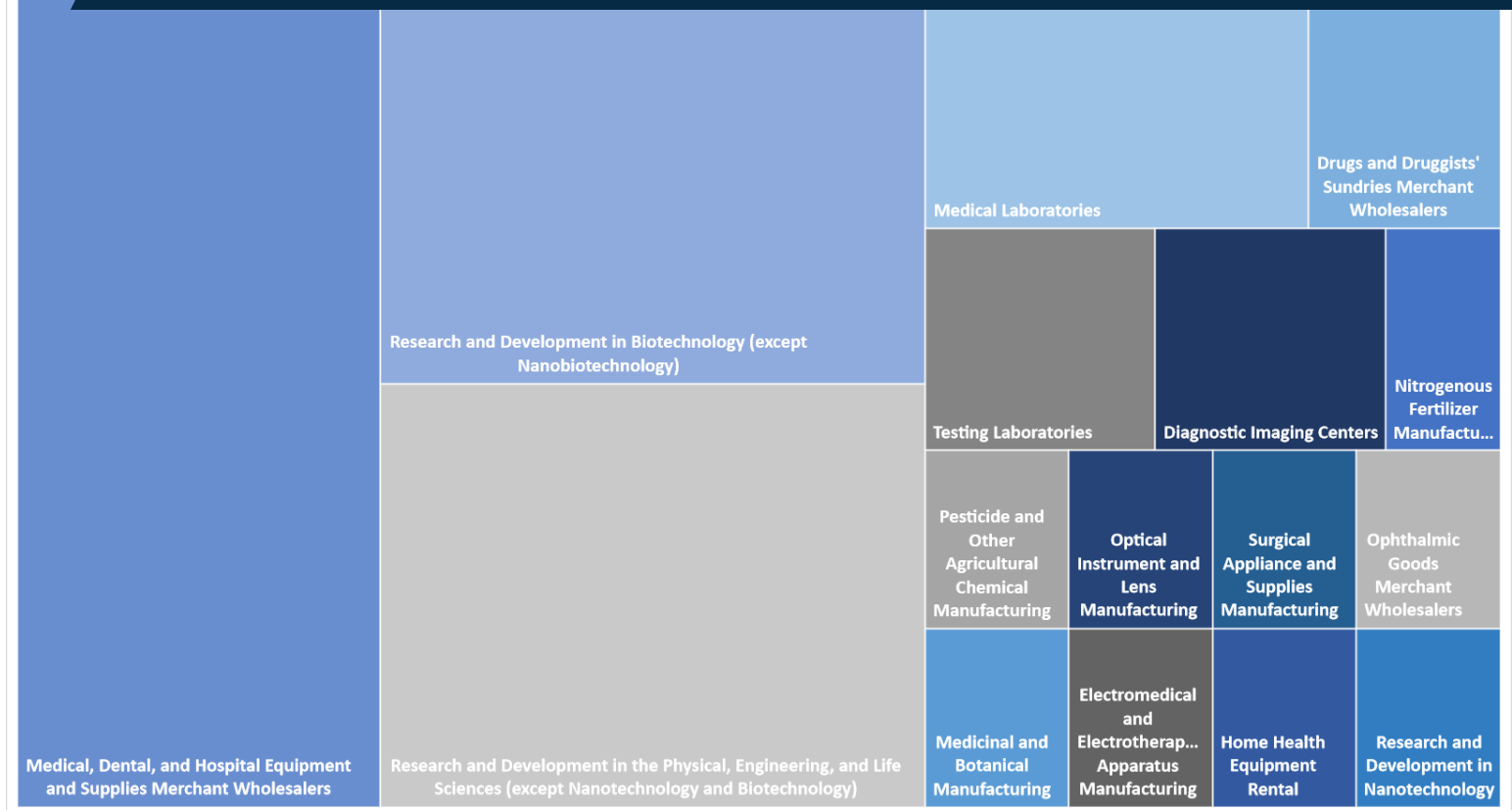




New Bioscience Businesses in MT

5.

GROWTH IN NEW PRODUCTS, SERVICES, OR BUSINESS LINES



The period from 2021 to 2022* saw the creation of **47 new payrolled bioscience business locations** in Montana, growing the total number to approximately 773 from 726, resulting in a 6% increase.

Following Medical, Dental, and Hospital Equipment and Supplies Merchant Wholesalers, the next top net new bioscience businesses were in Research and Development in Biotechnology (except Nanobiotechnology) and Research and Development in the Physical, Engineering, and Life Sciences (except Nanotechnology and Biotechnology), which further exemplified the continued growth and opportunities in research and development innovations as a whole for Montana's bioscience industry.

*As of the completion of this report, 2023 numbers were unavailable to report.



SBA Metrics

6.

GROWTH IN NEW PRODUCTS, SERVICES, OR BUSINESS LINES

During contract year 2023, MTBSCI was able to identify 24 of its small business cluster participants that developed approximately **44 new business lines, services, or products**. Small business cluster participants added approximately **\$78,626,204 in private investment, grants, or federal contracts in 2023**. We continue to highlight these businesses in our quarterly reports, and have included one below:

PurCell Bio, situated in Bozeman, MT, is a cell culture research company that has created a range of cell culture media and media supplements surpassing the growth performance of serum. The company's products address significant issues associated with serum use, including batch-to-batch variability, contamination concerns, and high costs.

PurCell's patent for their new product line, StemPur, was published on July 4th, 2023. This marks a major milestone for the company because the patent insulates their competitive position and advantage in the market. Patent Number US 11,692,167 B2 covers their first four products that they are planning to release: StemPur, FibroPur, MyoPur, and HEKPur.

In 2023, Purcell's production processes were rigorously refined and improved as they strive towards cGMP compliance. The team is working hard to meet the FDA's current Good Manufacturing Practice (cGMP) requirements as swiftly as possible, due to the level of interest they have received from the contract development and manufacturing organization market.

Purcell closed a seed funding round on December 15th, 2023.





SBA Metrics

7. NUMBER OF PATENTS OBTAINED AND /OR APPLIED FOR BY SMALL BUSINESS PARTICIPANTS IN THE CLUSTER

30 patents were obtained and/or applied for by **small business participants** in the cluster in 2023. Additionally, our two R1 universities, **Montana State University** and the **University of Montana**, also applied for an additional **59 patents, a nearly 54% increase from 2022.**



Montana State University received **15 bioscience invention disclosures** and obtained or applied for **21 bioscience patents and 2 bioscience trademarks** during the calendar year, filed on behalf of small businesses and researchers. In addition, the number of new registered startups for that same period is two.

For a fifth year running, Montana State University recorded **an all-time high for research expenditures**, tallying more than **\$230 million** for the fiscal year ending in June 2023. That figure marks a **14% increase** over the previous year's total expenditures of \$201 million and adds to nearly a decade of research expenditures topping \$100 million.

In 2023, the University of Montana filed **8 patent applications** and received **5 invention disclosures** from UM faculty members. In some cases, these faculty have an equity interest in Montana or U.S.-based small businesses, in accordance with federal, state, and MUS laws, regulations, and policies.

Further university research expenditures can be found on page [20](#).



Select Highlights



SCALING BIO BUSINESSES

In 2023, MTBSCI prioritized training and workshops aimed at advancing Montana's bioscience firms. For instance, a one-day event at Montana State University in March, organized in collaboration with the Montana Bioscience Alliance and Montana Innovation Partnership (powered by TechLink), featured the Wilson Sonsini Startup Bootcamp. This exclusive program, conducted in partnership with Wilson Sonsini Goodrich & Rosati, offered valuable insights on incorporating life science-focused companies, intellectual property, fundraising, and technology licensing. The event provided a platform for early-stage investigators, graduate students, faculty, and entrepreneurs to engage directly with legal and business experts. Additional webinars included topics such as "Scaling Biotech Companies in Montana," "Bioscience Valuation to Facilitate Fundraising, Licensing, and Acquisitions," and "Bioscience Workforce Trends in Montana."

MTBSCI also collaborated with like-minded entities focused on research commercialization and startup engagement. In November, MTBSCI promoted and sponsored the Early Stage Summit in Bozeman, hosted by Early Stage Montana. The summit featured a life science roundtable, engaging life science entrepreneurs, startups, and venture capitalists to address various questions such as "how to scale," "where to find funding resources," and "where to find lab space as a small-scale entrepreneur?" A notable event highlight was the keynote address from Emily Leproust, the CEO of Twist Bioscience. Her insights and perspectives added significant value to the summit, contributing to the event's overall success and furthering MTBSCI's commitment to supporting and promoting innovation within the life science sector as she described her experience and key takeaways in scaling a synthetic DNA business from start-up to raising over \$1 billion.





Select Highlights

MONTANA BIO GOES GLOBAL

The Montana Bioscience Cluster Initiative continued activities to expand outreach across the state and country in addition to targeted international markets. Progress in international expansion, investment, and distribution efforts are identified below:

Japan Trade Mission - Maruho Visit to MT

As a result of a fruitful meeting with a Japanese pharmaceutical company during the Japan trade mission in 2022, and subsequent virtual follow-up meetings, MTBSCI hosted two team members from Maruho in Montana in June. The purpose of their visit was to investigate Montana's bioscience ecosystem and areas of research specialization with a mind to establishment of near-term partnerships and licensing opportunities and finding a long-term fit for U.S. market entry. MWTC arranged a comprehensive agenda for Maruho including meetings with Montana bio firms, government officials, researchers at our state's two flagship universities, tech transfer and commercialization professionals, Montana Department of Commerce director, MTBSCI partners and many others during this 4-day visit. The overall response from the Maruho team was positive. They seemed pleased with the quality of meetings, perspective pool of loyal talent and visibility into available local resources.

BioJapan

Montana World Trade Center conveyed Montana's business case for bio at BioJapan in October, sharing individual and firm-level expertise, alongside Montana Department of Commerce. Eight Montana-based bio firms traveled to Japan and participated in the trade show, utilizing the Montana Pavilion as a home base where they could hold discussions with potential and existing distributors, investors, and strategic partners. Translation services before, during and after the show were provided in conjunction with Montana Department of Commerce's Japan Trade Office. The success of these engagements bodes well for anticipated growth of export sales to Japan as well as collaborative R&D opportunities for Montana bio firms to engage with Japanese firms – a frequent precursor to FDI.





Select Highlights

MONTANA BIO GOES GLOBAL

MEDICA

MWTC's Cassandra Sunell further represented the Montana Bioscience Cluster Initiative at the MEDICA tradeshow in Dusseldorf, Germany, where she shared information provided by four Montana-based medical device firms with potential distributors as well as speaking to Montana's strengths for the industry as a whole. This collaborative effort with a dedicated Montana Pavilion staffed by MWTC and Montana Department of Commerce, showcased Montana's industry-specific strengths to over 83,000 visitors from 166 countries in attendance at the show.

BIO International

The most important trade show for biopharma, Bio International, was held in Boston in May 2023. **Over 20,000 from 73 countries and 47 states attended** and participated in more than 57,000 partnering meetings. MTBSCI orchestrated a substantial presence for Montana, highlighting Montana's critical location factors for biopharma and facilitating on-site connections to specific researchers and 14 Montana-based biopharma firms. Montana companies that attended included: Inimmune, FYR Diagnostics, Shelburne Group, Vibliome, Microbion, Montana Innovation Partnership, and Two Bear Capital. The MTBSCI cluster firms that reported to our organization stated that over 170 requests for meetings were sent to their companies, from which they were able to engage in 20 meetings in furtherance of their R&D and long-term commercialization efforts. To complement existing bioscience and nutraceutical/functional food industry information fliers, new fliers were translated and printed in Mandarin, Japanese, and Korean with the assistance of MWTC staffer, Seungju Han.

Participation in the MEDICA, BioJapan, and BIO International tradeshow aligns with the Montana Bioscience Cluster Initiative's commitment to foster growth and global partnerships within the state's bioscience industry.





Select Highlights

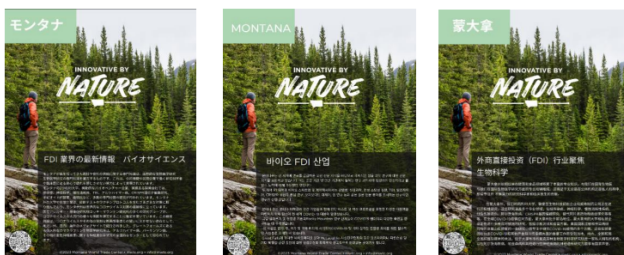
MONTANA BIO GOES GLOBAL

Saudi Delegation to Montana

On the international outreach front, the Montana World Trade Center (MWTC) was pleased to welcome a two-person delegation from Saudi Arabia to Montana in September. One of the two inbound participants studied biological engineering at Montana State University, graduating in 2017. This affinity connection to Montana coupled with present-day MTBSCI outreach brought him and a colleague to Montana in an effort to: better understand the statewide bioscience ecosystem –which has yielded the highest percentage increase of biopharma employment in the U.S. in recent years; initiate pathways leading to collaborative R&D; and evaluate what investments might help propel the bio ecosystem forward. Various Montana bioscience cluster participants including bio startups, VCs, researchers, and many others had an opportunity to engage with our inbound guests.

MTBSCI and the Montana Department of Commerce

In 2023, and consistently over the five-year duration of the MTBSCI contract, our partners have played a pivotal role in ensuring that, despite restructuring in state support under a new administration, bioscience remains a top priority for workforce development and business attraction within the Montana Department of Commerce. MTBSCI has actively crafted and distributed industry information flyers, conducted targeted marketing campaigns, and organized numerous collaborative events. These initiatives have further strengthened our partnerships and alignment with the shared goal of fostering the growth and development of the bioscience industry in the region.



Translated bioscience information one-page documents.





Select Highlights

EXPANDING MONTANA'S LAB-SCAPE

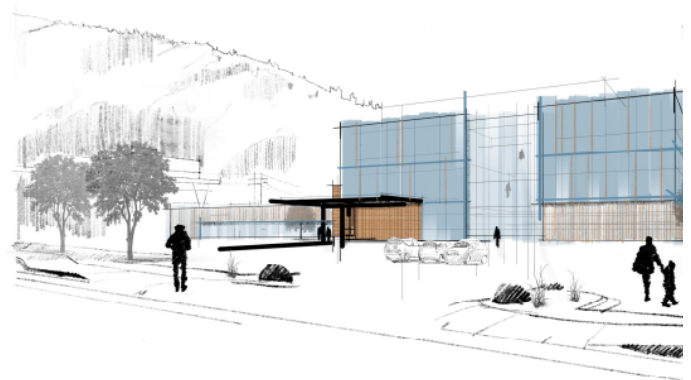
MonTEC 2.0

We are pleased to report that MonTEC now has in place a memorandum of understanding with a private sector developer team working to bring phase one of the Innovation Corridor Gateway project to fruition. This team has specific innovation district development expertise including build out of wet lab space and has the financial capacity to fund the project. The developer has already identified general contractor and design team members and is working towards breaking ground in 2025.



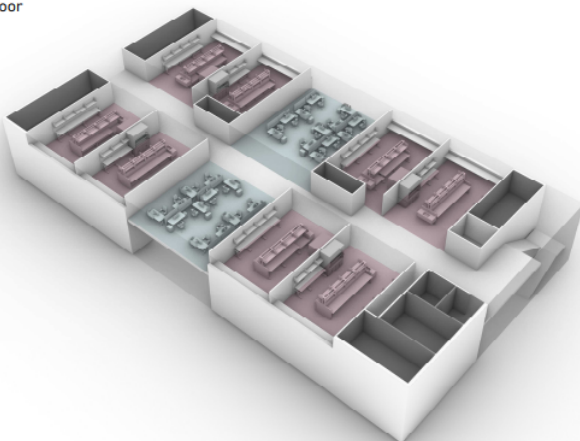
Maria Lindberg, with more than 25 years of experience in real estate acquisition, disposition, and commercial development, co-founded Pacific Partners Real Estate in 2022. This international real estate development firm, boasting offices in Seattle and Los Angeles, prides itself on tailoring its services to its clients' specific needs. Pacific Partners RE works hard to understand the unique motivations of each client or company and crafts bespoke real estate solutions unbound by asset class or location. Currently, the firm is spearheading numerous projects both nationally and internationally. This firm, distinctively, is women-owned and women-managed and stands as a beacon of commitment to diversity in the real estate sector. Maria Lindberg is a Certified Commercial Investment Member (CCIM).

LSRE Solutions is a distinctive branch of Pacific Partners dedicated exclusively to life science real estate. **Michael Lindberg**, Managing Director of LSRE Solutions, plays an instrumental role in bridging the gap in science and real estate. His visionary leadership extends beyond real estate through efforts to grow and support science and health economic development through projects such as assembling a wet-lab incubator and creating a regional life science cluster through the ICAP Launch program in partnership with the Washington Department of Commerce. His team seamlessly links academia, industry, and real estate in the dynamic world of science and health. Prior to entering the real estate industry, Michael Lindberg managed and scaled several labs, including founding the Mitchell Lab at the University of Washington Microbiology.



Proposed MonTEC Building from Broadway, looking south

Typical Lab Floor



In 2021, a collaboration formalized between Pacific Partners, LSRE Solutions, and **Will Germain**, CEO of MCB Real Estate. Their joint venture revolves around unearthing life science and healthcare real estate prospects. MCB Real Estate, an institutional investment management entity, stands out with its varied portfolio of operational assets and developmental projects. His expertise traces back to 2006 with Ventas, where he steered investments in university-centered realms, spanning life science, research, and innovation centers. Will Germain serves on the Board of Directors of the Association of University Research Parks (AURP), a dynamic network of university research parks and innovation district industry leaders. He is also a member of the Urban Land Institute's University Development and Innovation Council and the Real Estate Executives Council (REEC). Additionally, Will Germain was a Steering Committee member for the Global Institute on Innovation Districts (GIID) from 2019 to 2022.

Also part of MCB Real Estate, **Mark Furlan** has over 25 years at the forefront of healthcare development, building an impressive portfolio of over 60 projects spanning virtually every regional U.S. market. Mark Furlan's expertise spans from site selection to construction leasing and property management, specializing in repurposing projects tailored for market providers. This innovative approach has often paved the way for timely, cost-effective opportunities. Before joining MCB Science and Health, Mark Furlan was an integral part of Lend Lease Americas through their acquisition of DASCO Companies, where he was a founding partner. His influential roles also extended to MNCB (now Ventas) and Universal Medical Buildings (now Landmark), marking his all-rounded proficiency in project development and leasing. Mark Furlan's journey encapsulates innovation, leadership, and an unwavering commitment to healthcare real estate excellence.



Select Highlights



EXPANDING MONTANA'S LAB-SCAPE

Montana's First Medical Schools Open Doors in 2023

2023 witnessed a landmark shift in Montana's healthcare landscape with the arrival of not one, but two new medical schools. This represents a significant step towards addressing the state's ongoing physician shortage and ensuring greater access to healthcare for rural communities. The much anticipated groundbreaking of these medical schools also paves pathways for future clinical trials and skills development in labs for workforce talent.

Rocky Vista University Montana College of Osteopathic Medicine (RVU-MCOM) opened its doors in Billings in July, welcoming its inaugural class of students. Focused on osteopathic medicine, RVU-MCOM brings a holistic approach to patient care and aims to attract students interested in serving rural communities. Meanwhile, Touro College of Osteopathic Medicine (TouroCOM) Montana initiated Montana operations in Great Falls shortly after the RVU opening, emphasizing hands-on training and innovative technology to prepare the next generation of physicians. Both schools have forged partnerships with local hospitals and clinics, ensuring students gain valuable clinical experience alongside their academic studies.

Touro Medical School Rendering, Great Falls



The arrival of these new medical schools has sparked excitement and hope for Montana's future. They not only offer potential students exciting new pathways to careers in medicine and medical research, but also hold the promise of a brighter future for healthcare access throughout the state.

With a focus on serving rural communities and fostering a new generation of physicians, these schools have the potential to transform Montana's healthcare landscape for the better.



Select Highlights

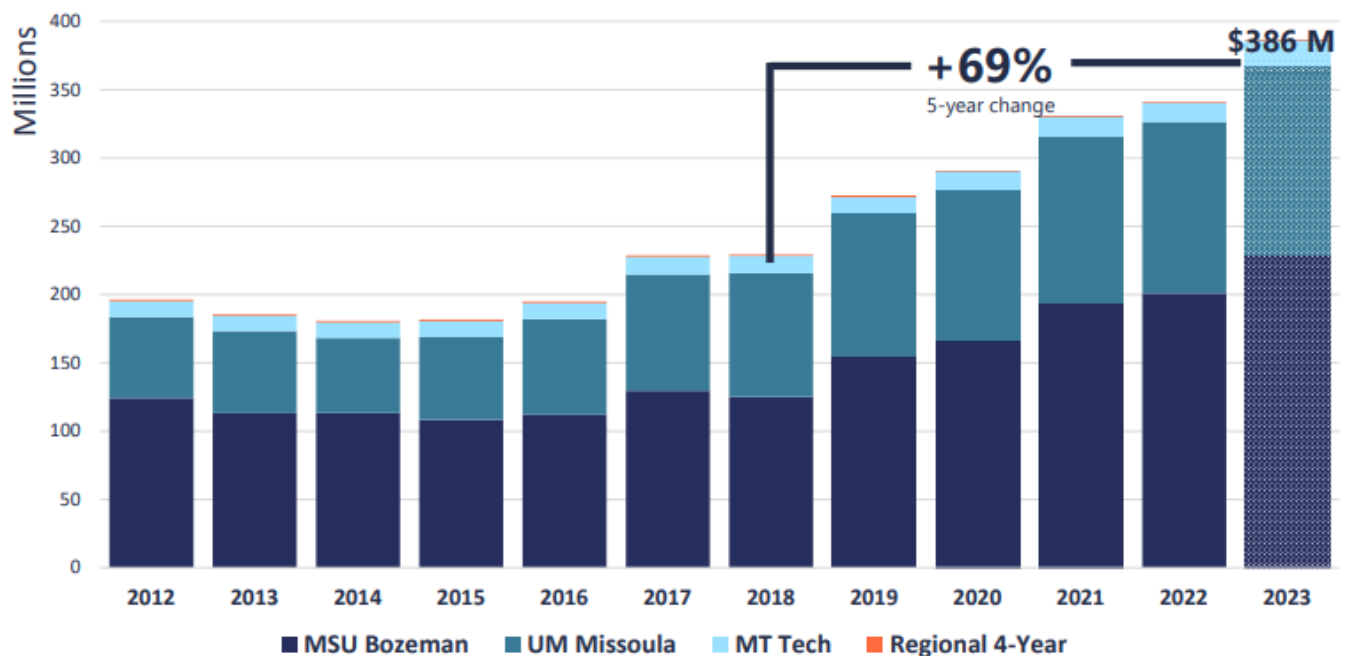
EDUCATION HIGHLIGHTS

Montana has witnessed extraordinary strides in research, solidifying its reputation as the **second-fastest-growing university research enterprise** in the nation over the past decade. This remarkable achievement reflects the state's unwavering commitment to advancing knowledge, fostering innovation, and promoting academic excellence. Montana's investment in research initiatives has propelled its universities to the forefront of discovery, attracting top-tier talent and contributing significantly to the expansion of the broader research landscape. The state's dedication to cultivating a thriving research environment positions it as a key player in shaping the future of academic exploration and technological innovation.



Research Expenditures

(SOURCE: National Science Foundation HERD survey; values in nominal \$)



- ❖ MUS research has grown 108% since 2013.
- ❖ Montana has the 2nd fastest growing university research enterprise in the nation over the past decade.

Select Highlights



EDUCATION HIGHLIGHTS

\$4M Award Funds UM Biomedical Entrepreneurship and Innovation Hub

The University of Montana has recently been granted a substantial four-year, \$4 million Research Evaluation and Commercialization Hub (REACH) award by the National Institutes of Health, leading to the establishment of the L.S. Skaggs Institute for Health Innovation (SIHI-REACH). The primary objective of the UM-based hub is to expedite the commercialization of biomedical innovations throughout the expansive region encompassing Montana, Alaska, Idaho, and Wyoming. Moreover, it will play a crucial role in supporting academic innovators in developing medical products designed to address unmet healthcare needs across the United States.

The SIHI-REACH initiative is set to form partnerships with various academic institutions, including universities, community colleges, technical colleges, and tribal colleges, spanning the four-state region. A key focus of these collaborations is training the next generation of biomedical innovators in entrepreneurship and product development. To facilitate this, proof-of-concept funding of up to \$100,000 will be made available to innovators to support critical business and product testing activities. This award represents the latest addition to the emerging L.S. Skaggs Institute for Health Innovation (SIHI), a dedicated UM institute committed to enhancing access to healthcare and 26 fostering emerging health innovations, particularly for rural and tribal populations. Positioned as a leader in developing strategic partnerships, SIHI aims to promote access to biomedical innovation in resource-limited areas, further solidifying its role in advancing healthcare solutions for underserved communities.

“UM is focused on addressing equity in access to research for rural and tribal communities, and supporting biomedical research initiatives within MT. The hub will help capture and commercialize our University intellectual property, attract biotech partners and investors, and ultimately grow the biomedical product development sector in the region.”

- Scott Whittenburg, UM Vice President of Research & Creative Scholarship



Erica Woodhahl & Karen Brown,
University of Montana



Select Highlights

EDUCATION HIGHLIGHTS

MSU Recorded an All-Time High for Research Expenditures

For a fifth straight year, **Montana State University recorded an all-time high for research expenditures** – the funding put toward scientific discovery and other scholastic and creative pursuits. MSU is the largest research enterprise in the state, and its total expenditures exceed the research expenditures of all other institutions in the state combined.

MSU is **one of only 146 institutions in the U.S. to receive an R1 designation** for its very high research activity by the Carnegie Classification of Institutions of Higher Education, and among those, MSU and Utah State University are the only two that also have an enrollment profile of “very high undergraduate.” Highlights from the past year include:

- Stephanie Wettstein in the Department of Chemical and Biological Engineering is working on a \$450,000 NSF-funded project to develop improved methods of making a bio-based plastic from agricultural biomass that would otherwise sit in farmers’ fields.
- Roland Hatzenpichler in the Department of Chemistry and Biochemistry received a prestigious \$1.7 million grant from the National Institutes of Health to advance tools for better understanding the human gut microbiome, which is implicated in a variety of health disorders.
- A \$6 million NSF grant to elevate MSU’s research impact. With this new funding, research at MSU will have more opportunities to be translated into products and solutions with extended real-life impact. MSU was one of 18 teams nationwide to receive funding through the NSF's new Accelerating Research Translation, or ART, program. The cooperative agreement will provide \$6 million in support over the next four years.



Select Highlights



EDUCATION HIGHLIGHTS

Montana Receives EDA Tech Hub Designation

Montana recently competed for and secured one of only 31 Tech Hub designations awarded across the U.S. The newly designated Montana Headwaters Regional Technology and Innovation Hub (including MTBSCI partners, Montana Technology Enterprise Center and the University of Montana) will concentrate on bolstering workforce development and job opportunities within the photonics, optics, and autonomous systems sectors.

These technologies are pivotal in natural resource management, agriculture, disaster prevention, and defense applications in addition to having some cross-over applications in biotech (e.g. lasers used in high-powered microscopes). Montana is now poised to apply for phase two Tech Hub funding through the CHIPS and Science Act in February 2024. The Tech Hub designation for Montana has already translated into increased interest from out-of-state firms and developers looking at Montana as a site for potential operations. Additionally, the Select USA Summit will promote a limited number of Tech Hub Spinoff events occurring near the time of the DC-based event. This will allow for FDI prospects to get outside the beltway and actually visit places like Montana in person under the auspices of the trusted Select USA brand.

“With UM’s record research growth and Accelerate Montana’s innovative programs for workforce development in a rural setting, we are as prepared as any place in the U.S. to conduct the research, development, and manufacturing needed to ensure international dominance in the critical technology fields in our proposal.”

-Seth Bodnar, President of the University of Montana



Select Highlights

WORKFORCE DEVELOPMENT EFFORTS

The demand for laboratory skills in the bioscience industry is on the rise, and what's noteworthy is that these roles don't always require advanced degrees. Positions such as lab technicians, research assistants, and other technical roles are becoming increasingly crucial, offering accessible entry points for individuals with specialized training and expertise rather than traditional four-year degrees. This trend reflects a broader recognition within the bioscience sector of the diverse skill sets and pathways contributing to its growth.

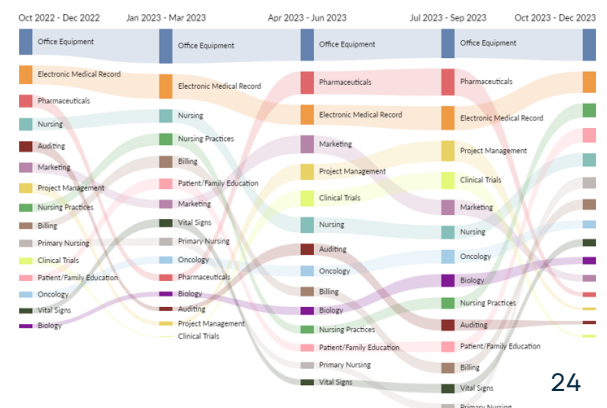
MTBSCI's January webinar spotlighted bioscience workforce trends in Montana and endorsed ongoing pathways, such as engaging with regional bio coalitions, including the Evergreen Bioscience Cluster Initiative in Spokane, WA and the Montana Bioscience Alliance in Billings, MT, adopting the BACE credentialing program in schools, and partner awareness through secondary schools, such as the Fusion Lecture Series in Missoula, or the Healthcare Immersion Day in Billings. Over the past year, MTBSCI has intensified its commitment to provide industry-specific training, creating accessible pathways to bioscience careers, particularly in rural and tribal communities. Building on MTBSCI's inaugural efforts to train trainers in the first year, Flathead Valley Community College has introduced the Bioscience Assistant Certification Exam (BACE) program. This initiative enables students to obtain a certification validating their mastery of fundamental knowledge and skills essential for a laboratory environment. Looking ahead, FVCC aims to broaden dual enrollment, advocate for biotechnology programs with BACE opportunities at two-year institutions, including tribal colleges, and sustain professional development for educators statewide.

What skills are they posting for?

Most Jobs are Found in the Production Occupations Industry Sector



Top 15 Skills for All Job Types by Quarter





Select Highlights

BIO OUTREACH HIGHLIGHTS

Biotech Resource Guide & 2024 Biotech Companies to Watch

As we conclude the RIC contract, MTBSCI is redoubling its efforts to ensure ongoing availability of information, resources and guides for researchers, entrepreneurs, bioscience job seekers, as well as outside entities looking in to discover Montana's strengths in bio. In addition to the Montana BioScience Alliance website, the Montana High Tech Business Alliance website will also include a biotech landing page featuring information to help fledgling bio companies share their stories, commercialize, and scale successfully.

Additionally, the *Montana Biotech Companies to Watch 2024* list has been developed and will be launched with a planned "Bio Ball" in the spring of 2024.

View the full landing page at this [link](#).



2024

Biotech Companies to Watch

Conclusion

The 2023 annual report marks the conclusion of the Montana Bioscience Cluster Initiative's final annual reporting cycle. Over the past five years, MTBSCI and its cluster partners have been incredibly passionate about fostering industry awareness and enhancing industry capacities. Our collective efforts have helped to ensure small bio businesses seeking expansion opportunities and researchers efforting to commercialize discoveries will find firm footing, willing partners, and clear pathways to do so in Montana. MTBSCI coalition partners are proud of the work achieved to date in growing Montana's bioscience industry and will continue to support the industry as a whole as well as individual bio firms, researchers, and entrepreneurs for many years to come.



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