# BioScience Under the Big Sky
# Summer/Fall Newsletter

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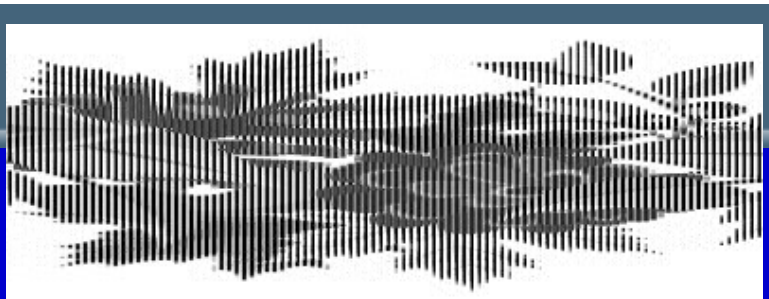

## Welcome to our Summer/Fall Newsletter!

Welcome to New Member
Inimmune Corporation
Missoula

Congratulations to Dr. Steve Running
Montana BioScience's 2016 Hall of Fame Inductee
Check out on Montana Bio website
www.montanabio.org

## MEMBER NEWS

**BOZEMAN, MT, and VANCOUVER, BC-(Marketwired - June 16, 2016) - Microbion Corporation ("Microbion") of Bozeman, MT, USA and Microbion Pharma Corp. of Vancouver, BC, Canada**, specializing in the treatment of hard to treat and antibiotic-resistant infections, today announced that James Krieg, M.D., of Thomas Jefferson Hospital in Philadelphia, Pennsylvania, has enrolled the first patient in the Phase 2a study of MBN-101 for the treatment of orthopedic implant-related infections.
Thomas Jefferson Hospital is currently one of four clinical sites enrolling patients in this study. The other sites include the Orthopaedic Trauma and Fracture Service in the Department of Orthopaedic Surgery at the University of Pennsylvania, the Orthopaedic Trauma Institute at the University of California San Francisco, and the Rubin Institute for Advanced Orthopedics, Sinai Hospital of Baltimore, LifeBridge Health. Read More

### Xtant Medical Announces Changes to Its Executive Management and Board of Directors

BELGRADE, Mont., June 16, 2016 (GLOBE NEWSWIRE) - Xtant Medical Holdings, Inc. (NYSE MKT:XTNT), a

leader in the development of regenerative medicine products and medical devices, today announced the appointment of Paul Buckman, Eric Timko, and Rudy Mazzocchi to its Board of Directors. The Company also announced the resignation of Directors Jon Wickwire and David Goodman. The above changes will be effective as of July 2, 2016.
Paul Buckman has more than 30 years of experience as a business leader and executive in the medical device and medical technology industries, holding positions at SentreHEART, Pathway Medical Technologies, St. Jude Medical, Ev3, Scimed/Boston Scientific, and others. He has also served on the Board of Directors for businesses including SentreHEART,Sunshine Heart, Devax, Velocimed, EndiCor, Microvena, Micro Therapeutics, Ev3 and has served as the Chief Executive Officer for Conventus Orthopaedics since 2013.
Eric Timko has over 25 years in the medical industry, most recently serving as CEO of Blue Belt Technologies, a company that was acquired by Smith & Nephew earlier this year. Prior to joining Blue Belt, Mr. Timko was the President and CEO ofNeuroVasx, Inc., a Minneapolis-based company developing a unique therapeutic device to treat hemorrhagic stroke. Previously, he served as President of Carl Zeiss Surgical, Inc., and as Vice President of Siemens Medical Systems, Inc. Mr. Timko possesses a proven track record in building an effective and profitable sales and distribution organization and he brings vast experience in medical technologies at both the start-up and commercial stages. Read More

**Phillipe and Fanny Diaz of DermaXon** are excited to share this great news, our company DermaXon has been awarded by the NIAMS a phase 1 STTR grant, entitled Selective inhibition of CYP26A1 in the skin for the treatment of ichthyosis. This award aims to demonstrate the efficacy of our CYP26 inhibitors for the treatment of ichthyosis.

### Heart specialists mull valve replacement changes

lance.nixon@missoulian.com
As cardiac surgeon Joseph Woo of Stanford University sees it, the choosiest of health care consumers already have spoken when it comes to their preferences for heart valve replacement.
"I've had the privilege of operating on physicians, cardiologists, cardiac anesthesiologists, cardiac surgeons," Woo told a room full of doctors July 22 during the Rocky Mountain Valve Symposium in Missoula. "And not one has ever asked me for a mechanical valve. The valves that I have implanted have all been bioprosthetic valves, across the entire age spectrum. The ones who are undergoing some sort of valve repair and have had that discussion about what kind of valve they want if the valve repair is not successful, not one has ever asked for a mechanical valve."
Woo added that he also has encountered similar attitudes in Asia and he suggested a big issue is that mechanical valves require use of a blood thinner - so called bioprosthetic valves don't.
"This message is getting out well beyond North America and Europe and the western countries and into more developing countries. Patients just do not want to take anti-coagulants," Woo said.
Whether the minimally invasive procedure should be available to all comers was an important topic at the **26th Rocky Mountain Valve Symposium**, held in July in Missoula. **The International Heart Institute of Montana at Providence St. Patrick Hospital holds the symposium, which attracted 75 doctors from all over the country and from two other nations this year. Counting Providence people, there were some 180 people in all attending.**
But as Woo's Missoula audience knew well, the issue is more complicated than just health consumer choice.
Read More

Each month, the University of Montana's SpectrUM Discovery Area opens up its doors free of charge to the public for some hands-on learning and an opportunity to meet role models in various fields. This month's theme was "Building with Biology" and provided opportunities for kids (both young and old) to engage in some hands-on science work and to meet some great STEM role models. That group of role models included **Rivertop's own Kelly Barton, Senior Scientist here in Missoula, and Jon Speare, Technical Manager Analytical Chemistry with the company**. The two Rivertopians showed different 'modules' or units designed to elicit discussions on synthetic biology and its societal implications. They took visitors through Synthetic Biology kit exercises-particularly the 'Tech Tokens' Synthetic Biology kit.
"It was great to interact with kids and parents about science!" said Jon about his role of volunteer scientist guide.

## UNIVERSITY NEWS

### Montana State University's research posts one of strongest years on record

August 31, 2016 – MSU News Service
Bozeman - Montana State University's research enterprise posted one of its best years on record in almost every category of measurement showing significant strength in the areas of biomedicine and health; agriculture; engineering and the environment.
In addition to $118 million in expenditures, undergraduate students, graduate students and faculty all contributed to a very strong year of awards, major scholarships and publications on new research, said Renee Reijo Pera, MSU vice president for research and economic

development.
"It was a fantastic year," Reijo Pera said. "It was largely driven by our faculty who set a new bar of excellence."
One of the most significant accomplishments of the year involved MSU opening 600 new grants in fiscal year 2016, the largest number in the university's history, breaking last year's record of 540.
"This is truly a measure of how our faculty and graduate students demonstrate their excellence not only in the classroom but in their research and scholarly pursuits," said Waded Cruzado, MSU president.
The number of new grants is important for two reasons: First it signals the likelihood of strong year for expenditures in the coming year as that is when the funds from those 600 grants will start to be expended. Secondly, a larger number of grants creates a more diverse research portfolio for the university which can help reduce the impact when specific grant sources decline or dry up altogether.
"A diverse portfolio increases our sustainability through any challenges that may arise in federal or state funding," Reijo Pera said. "Our faculty's work in this area is nothing short of stellar."
Read More

**UM Sets Record for Research Funding**
September 07, 2016
MISSOULA - Research is rocking at the University of Montana, where for the second year in a row the University set a new record for external funding.
UM brought in $87 million in funding during the past fiscal year to support homegrown Montana research, entrepreneurship and statewide outreach, exceeding the last year's record total of $83 million.
With these funds, UM researchers and scholars are designing new molecules with applications for drug development and environmental remediation. They are creating professional trainings to improve mental health among children living in rural communities. Among many other activities, they also are tracking elk to better understand their migratory patterns and pursuing an array of other newly funded research efforts that promise to create local economic opportunity while addressing questions and challenges of global significance.
Scott Whittenburg, UM vice president of research and creative scholarship, said University faculty members and staff reached the new record through 684 submitted proposals, which was almost 10 percent more than the previous year.
"We have a growing reputation as a research university, with nationally and internationally renowned scientists," Whittenburg said. "Our students get to work in amazing labs and learn from great researchers, who also regularly inspire budding Montana scientists through dynamic K-12 outreach programs. At the same time, this activity spurs entrepreneurship and attracts new companies to power our economy.
"We couldn't be more excited about our current trajectory in funded research."
Whittenburg said UM faculty members are the foundation for UM's growing research efforts. He noted that the University has added a number of new outstanding faculty researchers, including Josh Millspaugh, the Boone and Crockett Professor of Wildlife Conservation; Jedediah Brodie, the John Craighead Endowed Chair; L. Scott Mills, who is internationally recognized in wildlife biology; and Matt Church, an oceanographer at the Flathead Lake Biological Station who also has an international reputation.
Read More

At the Montana BioScience Alliance annual meeting in July, Janelle Booth reported on the **Legislative Research Initiative**. More information on the Initiative and its progress is available on the Board of Regents website. Read More

## INDUSTRY NEWS

**FOR IMMEDIATE RELEASE**
**Tuesday, Aug. 16, 2016**
**MEDIA AVAILABILITY**
**NIH Explores Connection Between Ebola Survival and Co-Infection with Malaria Parasites**
**WHAT:**

**One of the NIAID study authors, Emmie de Wit, is shown at the diagnostic laboratory in Monrovia using a sealed glovebox to inactivate virus in patient blood samples prior to testing for Ebola.**
**Credit: NIAID**
**View larger image.**

**People infected with Ebola virus were 20 percent more likely to survive if they were co-infected with malaria-causingPlasmodium parasites, according to data collected at an Ebola diagnostic laboratory in Liberia in 2014-15. Moreover, greater numbers of Plasmodium parasites correlated with increased rates of Ebola survival, according to a dozen collaborating research groups in the new study, published inClinical Infectious Diseases. The survival difference was evident even after controlling for Ebola viral load and age. Scientists from the National Institute of Allergy and Infectious Diseases, part of the National Institutes of Health (NIH), led the project.** **Read More**

For Immediate Release: Thursday, Aug. 4, 2016
MEDIA AVAILABILITY
**Three Vaccine Approaches Protect Monkeys Against Zika Infection**
NIH-Supported Study Provides Insight into Possible Zika Vaccine Designs
Three different investigational Zika virus vaccine platforms-an inactivated virus vaccine, a DNA-based vaccine, and an adenovirus vector-based vaccine-protected against infection, induced immune responses, and produced no adverse side effects when tested in rhesus macaques challenged with the Zika virus, according to findings appearing August 4 in the journal Science. The results suggest that each of the three approaches holds promise for designing an effective Zika vaccine, according to the authors.
Researchers supported by the National Institute of Allergy and Infectious Diseases (NIAID), part of the National Institutes of Health, first tested the inactivated Zika virus vaccine in 16 rhesus macaques, with eight receiving the experimental vaccine and eight receiving a placebo injection. Within two weeks after the initial injection, all vaccinated animals developed neutralizing antibodies as well as antibodies specific to the viral envelope protein, a key vaccine target on the Zika virus. A second dose was given four weeks later, which substantially boosted antibody levels. The monkeys were then challenged with Zika virus; following exposure, the vaccinated animals had no detectable virus and showed no other evidence of infection, while the group that received the placebo injection developed high levels of virus replication in the blood and other tissues for six to seven days.
Read More

### Panel outlines research priorities for 'Cancer Moonshot'
### Recommendations emphasize importance of data sharing, promise of immunotherapy

BY
LAURA BEIL
3:26PM, SEPTEMBER 8, 2016

President Barack Obama's "Cancer Moonshot" now has a scientific flight plan. It calls for better cooperation among researchers and institutions, aggressive pursuit of immunotherapy and making better use of proven cancer prevention strategies. Called the Blue Ribbon Panel Report, the document was approved September 7 by the National Cancer Advisory Board, part of the National Cancer Institute.

Five months in the making, the report's 10 recommendations for research priorities was put together by a 28-member group of cancer experts appointed last April. It's the most specific direction yet for the moonshot (SN: 4/2/16, p. 20), launched when Obama announced the intention to make the United States "the country that cures cancer once and for all" in his State of the Union address in January. Vice President Joe Biden, whose son Beau died in 2015 from brain cancer at age 46, has been leading the charge. Read More

### BIO Launches "Innovation Saves" Ad to Highlight Value of Biopharmaceutical Innovation

Washington, D.C. (September 6, 2016) - The Biotechnology Innovation Organization (BIO) today launched a new television ad focused on biopharmaceutical innovation and its unique ability to help both save lives and save money. The new ad, along with its "Innovation Saves"website, is a new chapter in BIO's Value Campaign, which seeks to highlight the value of biopharmaceutical innovation, the importance of protecting the ecosystem that makes new cures and treatments possible and ensuring that patients have access to these important innovations. **Read More**

## Employment and Funding Oppurtunities

### Governor Bullock Announces Grants to Grow Montana's Innovation Economy and Create High-Wage Jobs

Wednesday, July 27, 2016 Helena, Mont. - Governor Steve Bullock today announced $919,358 in grants to nine research projects in Missoula, Billings, and Bozeman to encourage innovation, cutting-edge research, and high-wage job creation.

"Montana's diverse economy is strong and growing, and these technology projects will help create future business and job creation opportunities," said Governor Bullock. "These cutting-edge investments in research ensure Montana remains a step ahead of other states in keeping pace with rapidly-changing global economy."

The funding is being made available through the Montana Board of Research and Commercialization Technology (MBRCT). MBRCT supports economic development by investing in research projects that have a clear path to commercialization. The Board has funded 225 research projects totaling $42 million since 2001.

A study conducted by the Bureau of Business and Economic Research (BBER) found that the operations of MBRCT "have produced a larger, more prosperous and populous state economy, increasing the tax base since 2000, than would have existed in its absence."

Full list of Grant Recipients

### Now Accepting Applications for New ITHS Pilot Awards

ITHS is continually striving to fund novel, innovative, and collaborative translational and clinical research. To advance this mission, ITHS is funding a new set of awards through our Pilot Translational and Clinical Studies program.

**Research Innovation Award**

Improving the conduct of clinical trial research.

The Research Innovation Award supports specific clinical or translational research questions that can also act as a vehicle to develop new methods, policies, or procedures that will aid in the conduct of research.

Award: Up to $100,000

Applications Due: November 1, 2016

**Collaboration Innovation Awards**

Supporting interdisciplinary collaborations in translational research.

The Collaboration Innovation Awards are intended to encourage the development of new interdisciplinary collaborations between investigators in projects that address critical transitions in translational research.

Award: Up to $50,000

Applications Due: November 1, 2016

**Early Investigator Catalyst Awards**

Supporting research efforts of junior investigators.

The Early Investigator Catalyst Award program is designed to provide "just-in-time" resources to investigators looking to complete a project or collect pilot data for a larger grant application.

Award: Up to $5,000

Applications Due: October 1, January 1,April 1, July 1

**Early Investigator Voucher Awards**

Providing translational research studies with critical support.

ITHS is offering Voucher Awards as "in-kind" service vouchers for IRB or IACUC approved or exempt investigations in support of outstanding translational research.

Award: Up to $3,000

Applications Due: October 1, January 1 ,April 1, July 1 Read More:
https://www.iths.org/investigators/funding-opportunities/

## HELENA - Ballot Initiative 181, the Montanans for Research and Cures Initiative that will provide $200 million over 10 years for biomedical research, was certified Thursday for the General Election ballo

t by Secretary of State Linda McCulloch.

The number of verified signatures required for I-181 to be placed on the Nov. 8 ballot was 24,175. At the time of certification, it had 24,970 verified signatures, officials said.

This proposal establishes the Montana Biomedical Research Authority to oversee and review grant applications to promote the development of therapies and cures for brain diseases and injuries and mental illnesses. It would authorize the creation of state bond debts for $20 million per year for 10 years.

Read More

## Researcher says I-181 would benefit state

## Phil Drake, pdrake@greatfallstribune.com 5:03 p.m. MDT August 15, 2016

A leading medical research expert with ties to Great Falls said a great opportunity awaits Montana through a proposed initiative that would provide $200 million in bond money over 10 years for biomedical research.

Dr. Irv Weissman, a professor of pathology and biology who is director of the Stanford Institute of Stem Cell Biology and Regenerative Medicine and director of the Ludwig Center for Cancer Stem Cell Research and Medicine, spoke Sunday to about 30 people in Great Falls about Initiative 181 proposed for the Nov. 8 ballot and how a similar plan approved by voters years ago has benefited California.

He also said that for every person he has hired through the program they have brought in $2 million to the state.

Read More

Development Assistant

McLaughlin Research Institute, an independent nonprofit research organization specializing in neurodegenerative brain diseases, is seeking an enthusiastic, multi-talented team player for a part-time position in the Institute's development office. Strong organizational and social skills and excellent oral and written communication abilities are essential.

Responsibilities include: record keeping, website and social media management, some writing and editing, coordination and staffing of special events and meetings, requiring some offsite travel. Associate's degree required. The development assistant will report to the development director.

To apply, email a cover letter, resume, and a list of three references to:

McLaughlin Research Institute
1520 23rd Street South
Great Falls, MT 59405
ginny@mri.montana.edu

## WHAT'S HAPPENING?

The Montana BioScience Alliance partnered with Washington Bio, Oregon, Idaho and Canada on the Life Science Innovation Northwest Conference, in Seattle, June 1 and 2, 2016. Tom Rau and Seth Weston of Wintermute presented at the conference and were well received. Tom Brown presented a poster.
More Information


Montana State and Montana BioScience Alliance exhibited at and participated in the 2016 BIO International Convention, where the global biotech community meets, connecting the people, companies and innovations that help to fulfill the promise of biotechnology through healing, fueling and feeding the world concluded on June 9 2016 in San Francisco, California.
The Convention featured dynamic keynotes including a candid discussion with musician and philanthropist Will Smith and Dr. Bennet Omalu, the forensic pathologist Smith played in the movie "Concussion". Educational programming included over 800 speakers and 157 sessions which addressed the latest business opportunities, breakthroughs in medicine, diagnostics, the environment, energy production, food and agriculture and more. S
ession highlights: John Rogers, Andy Shirtliff and Dan Lloyd, Governor's office of Economic Development, Meg Oleary, Director, Montana Department of Commerce and Aaron Pratt, MDOC and Sharon Peterson from the Montana BioScience Alliance set up and manned the booth. It was great to see so many Montana companies at the convention- Microbion, Site1 Therapeutics, Genesearch, Montana Molecular, Nanovalent, Rocky Mountain Biologics, McLaughlin Research Institute, CTA, GeneCTAR, and others. We were pleased to have Renee Reijo Pera, VP of Research and Economic Development at MSU and Brigitta Freer and Missy Lacock, Montana World Trade Center included in our delegation. In addition many graduates from MSU and U of M stopped by the booth. At the Convention BIO released the following report.

**National Bioscience Report Shows Industry Creating Jobs and Driving Innovation**
**Bioscience industry contributing to U.S. economic growth and improving quality of life for patients**
San Francisco, CA (June 7, 2016)-A study released today at the BIO International Convention shows increased employment within the U.S. bioscience industry for the last four consecutive years. The report also shows impressive bioscience industry strength and resilience, with employment growth of nearly 10 percent since 2001. Among technology sectors the bioscience industry has been a leading performer over this period.
The report, The Value of Bioscience Innovation in Growing Jobs and Improving Quality of Life 2016, finds U.S. bioscience firms employ 1.66 million people, a figure that includes nearly 147,000 high-paying jobs created since 2001. The average annual wage for a U.S. bioscience worker reached $94,543 in 2014. These earnings are $43,000 greater, on average, than the overall U.S. private sector wage of $51,148. The report further shows that since 2012, the

bioscience industry has grown by 2.2 percent with four of its five major subsectors contributing to this overall job gain. Two of these subsectors-research, testing, and medical labs and drugs and pharmaceuticals-have led growth during the 2-year period with both increasing employment by more than 3 percent. More on Report
Montana Statistics

The Montana BioScience Alliance participated in Governor Bullock's Innovate Montana Symposium held in Billings July 13 and 14 as a Sponsor and participant. Jay Evans Inimmune Corporation served on a panel and the Bioscience Under the Big Sky - breakout group consisted of Rob Goodwin, Takeda, Ron Zook, Swan Valley Medicine, Sharon Brigner, PhRMA and John Delaney, Amgen. The Symposium was a huge success and was truly innovative. Read More

**More on Jay Evans**

## Events Calendar

**Montana BioScience Alliance is a partner in the White Hat Investor's Conference in Phoenix.**

**Plan to Attend!**


Big Sky Economic Development presents the Vibrant, Healthy Economy Summit (Includes BSED Annual Meeting Lunch)

October 12 - October 13

**10/12/16 Wednesday DAY ONE**

Big Sky Economic Development Annual Meeting Lunch featuring Keynote Speaker Dr. Neelum Aggarwal
Economic Diversification through Healthcare Innovation - Town Hall
Networking Reception

**10/13/16 Thursday DAY TWO**

Community Coffee featuring Capital Projects featuring Healthcare
Economic Impact of Capital Projects for Healthcare and Healthcare Education
B2B Roundtable Discussion around Talent Attraction and Placemaking
featuring BSED Member Investors and Billings Emerging Leaders
Healthcare Innovation Keynote Speaker - Dima Elissa

## Plan to join the Montana BioScience Alliance at BIO 2017


**BIO Returns to the Birthplace of Biotechnology in 2017Save the Dates:** June 19-22, 2017 | San Diego, CA
**Location:** San Diego Convention Center; 111 W Harbor Dr., San Diego, CA 92101
The Golden State is the home of many firsts for the life sciences sector - the first biotechnology company, the first biotechnology public offering, the first biotechnology drug approved by the FDA, the first companion diagnostic company and the first agricultural biotechnology company - just to name a few.With over 242,000 Californians directly employed by the life sciences sector, the State boasts the largest biotech workforce in the nation, generating nearly $259 billion in economic activity for California.
Southern California, in particular, has evolved into one of the world's largest life science hubs. The region has more than 1,100 life sciences companies and more than 80 independent and university affiliated research institutes. With one of the highest concentration of biotech companies, academic research institutions and talented labor forces in the world, SoCal is a major driver of global life sciences research, development, manufacturing, and commercialization.

**Call for Sessions + Speaking Opportunities:**

- 2017 Call for Sessions and Speakers opens September 15 - October 13. Email program@bio.org for more information.
- 15-minute Company Presentation at BIO 2017: Email biopartnering@bio.org for more information

# CLASSIFIEDS

Bio Business Solutions Value Through Cost-Savings BIO Business Solutions - Delivering savings to biotech companies
Thousands of biotech and related companies nationwide save money every day on essential products and services through an excellent cost-savings program offered by the Biotechnology Industry Organization (BIO), the international organization that represents the biotechnology industry.
Through its partnership with BIO, Montana BioScience Alliance offers its members the opportunity to take advantage of several of the organization's BIO Business Solutions programs. These include:

* Business insurance (clinical trials, product, property & casualty) from the Chubb Group of Insurance Companies
* Packaged & Bulk Gases from AIRGAS
* Secure Document sharing and virtual data from ShareVault
* Moving and relocation services from Humboldt
* Laboratory Supplies, Equipment and Chemicals from VWR
* Risk Solutions, Executive Liability Insurance from AON
* Office Supplies,Furniture,Equipment and Technology Products/Design, Print and Ship Services from Office Depot
* Environmental Services Environmental Services from Clean Harbors
* Shipping Services and Deep Frozen Shipping Solutions from FedEx
* Workwear Services from UniFirst
* Cleanroom Services from UniClean
* News and Business Information and Multi Media Distribution from Business Wire
* Nikon Research Grade Microscope Systems

For more information on these excellent cost-savings programs, please visit http://bbs.bio.org/content/montana-bioscience-alliance-mba

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www.montanabio.org

***The Montana Bioscience Alliance serves as a hub for Montana's biotechnology companies, entrepreneurs, laboratories, hospitals, clinics and universities to commercialize, grow and sustain globally competitive bioscience companies -- ultimately to create high-quality jobs and economic opportunity in Montana.***

Sharon Peterson
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