BioScience under the Big Sky

And a very productive and interesting Fall!

July, 2018

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Montana BioScience Hall of Fame for 2017

Montana BioScience Alliance Hall of Fame 2017

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Montana BioScience Alliance's 2017 Directory, Click Here!

Our 2017 Hall of Fame inductee is Robert Bargatze, PhD, Founder, Immunologist, Norovirus Specialist, Scientific Consultant and former President/Chairman of the Montana BioScience Alliance.

Read Article Here

Welcome New Members!

John Okonya
Bozeman

Imperium Tool and Instrument Inc.
Butte

MEMBER NEWS

BOZEMAN - A Montana State University professor of microbiology and immunology has received funding to fine-tune a revolutionary method to treat genetic disorders.
Professor Blake Wiedenheft has received funding to fine-tune a method to help treat genetic disorders. Blake Wiedenheft, assistant professor in MSU's Department of Microbiology and Immunology in the College of Agriculture and the College of Letters & Science, will receive $440,000 from California-based biopharmaceutical company Amgen. The funding will flow through **SurGene**, a biotech company Wiedenheft founded in December 2016 after Amgen expressed an interest in funding his research through a startup company.
With the funding, Wiedenheft and his team will advance the precision of CRISPR gene-editing technology, which has demonstrated the potential to create treatments for multiple genetic diseases. CRISPR stands for "clustered regularly interspaced short palindromic repeats," an adaptive immune system developed by bacteria to fight viral infections. READ MORE

A Montana State University technology anticipated to improve the accuracy of medical diagnoses has been licensed by FYR Diagnostics, a biotech company in Missoula.
The license agreement transfers to FYR Diagnostics a molecule detection technology developed by Stephanie McCalla, assistant professor in MSU's Chemical and Biological Engineering Department, and Tomas Gedeon, professor in the Department of Mathematical Sciences.
Leading a research team, the MSU professors invented a novel, rapid, highly sensitive method to detect biological molecules that can indicate the presence of a particular type of injury or disease within a human body. By amplifying the signal of these promising biomarker molecules, the technology

enables rapid and early diagnoses of medical conditions and diseases before symptoms emerge.READ MORE

Golden Helix Receives NIH-SBIR Phase 2 Grant 2R44 GM125432-02 Integrating CNV analysis into a NextGen sequencing clinical analytics platform
Bozeman, MT (September 17, 2018) - Golden Helix, Inc., an industry-leading genomic analytics company that specializes in clinical Next-Gen Sequencing analysis software, has announced today that the National Institutes of Health awarded them a Phase 2 SBIR Grant 2R44 GM125432-02 "Integrating CNV analysis into a NextGen sequencing clinical analytics platform".
This grant was awarded to develop and refine algorithms and applications to detect copy number variants (CNVs) and other structural variations in Next-Gen Sequencing. Also, it allows us tospearhead further development in combining these types of mutations with clinical interpretation workflows. "The NIH has been a terrific partner and supporter of our company," states Dr. Andreas Scherer President, and CEO of Golden Helix, Inc. "With the help of the approved funds, we will be able to take calculated risks pushing the currently existing boundaries of the clinical interpretation of Next-Gen Sequencing to the next level. The commitment of this grant gives us the ability to focus the next two years on advancements in this area. As the Principal Investigator of this grant, I want to express my utmost gratitude for this funding."READ MORE

MONTANA / UNIVERSITY NEWS

Amid opioid crisis, Butte man building a better painkiller
Kristen Inbody, kinbody@greatfallstribune.com Published 7:02 a.m. MT Feb. 5, 2018 | Update

A "nobody, basically" during high school in Butte, decades later Bryan Roth is making headlines nationwide for a breakthrough that could be a major step toward painkillers that aren't addictive. Roth's lab at the University of North Carolina at Chapel Hill studied how a protein in the brain interacts with opioids, which include oxycodone prescriptions, morphine, heroin and similar drugs. They then made a compound that interacts with only that protein.
"What we're doing is using this information to design improved treatments for pain. Our goal is to come up with medications that would be effective for long-term pain but would be safe so people wouldn't get addicted, wouldn't die of overdoses and wouldn't have other side effects such as constipation," he said. Opioid constipation is "usually the biggest complaint" when it comes to side effects. The same drug that numbs pain numbs the bowels, too, for many people. **Read More**

MISSOULA - A University of Montana alumna just landed a yearlong fellowship with the National Institutes of Health for her dedication toward transforming scientific discoveries into real-world solutions.
Genevieve Lind, who earned her bachelor's degree and doctorate at UM, will work in Washington, D.C., as a Science and Technology Policy Fellow with the American Association for the Advancement of Science. She will begin her placement at the National Heart, Lung and Blood Institute in the NIH Office of Translational Alliances and Coordination in August. The OTAC will engage Lind in efforts at the national level to accelerate the translation of scientific discoveries to the marketplace.
"I am thrilled to take the skills and knowledge that I have developed working and learning at the University of Montana to the National Institutes of Health - one of the world's foremost medical research centers - to work on developing real solutions to problems that scientists face in getting their discoveries out into the world," Lind said. **Read More**

MSU Billings professor awarded research grant
Dr. Lynn George awarded NIH grant for familial dysautonomia research
Contacts:
MSU BILLINGS NEWS SERVICES -Dr. Lynn George, adjunct assistant professor of molecular biology at Montana State University Billings, was recently awarded her second National Institutes of Health (NIH) grant in the division of the Institute of Neurological Disorders and Stroke. The grant, totaling $395,533, will fund George's research on familial dysautonomia (FD), a devastating childhood neurological disease that gradually destroys the peripheral nervous system. FD patients experience malfunctions of the respiratory, cardiovascular, and digestive systems, and typically die as young adults.
Work in the George lab is demonstrating that many FD symptoms result from an inability to interpret

an aspect of the genetic code called "codon bias." Although the existence of codon bias has been recognized in the scientific community for some time, George and her students are pioneering an effort to connect codon bias to neurological disease. Research in the George lab is identifying novel cellular and molecular pathways that are perturbed in FD and that may prove effective as therapeutic targets not only for FD, but also for other related neurological diseases including autism spectrum disorder and amyotrophic lateral sclerosis (ALS).Read More

ALZHEIMER'S DISEASE STARTS IN CHILDHOOD, WITH SYMPTOMS FOUND IN BABIES LESS THAN A YEAR OLD, STUDY SHOWS
BY DANA DOVEY ON 4/18/18 AT 3:04 PM

A new study found shocking evidence to suggest that Alzheimer's begins in childhood, with babies younger than a year old displaying signs of the disease. The research emphasized that earlier intervention is necessary to prevent the disease and addressing air pollution may play a key role**.** Researchers examined the autopsies of 203 residents of Mexico City and published their findings online in Environmental Research. The bodies ranged in age from 11 months to 40 years old. Children exposed to cleaner air performed better in various categories, including cognitive performance, lead study researcher **Dr. Lilian Calderón-Garcidueñas, a professor in the department of biomedical and pharmaceutical sciences at the University of Montana,** told Newsweek. Calderón-Garcidueñas, who also collaborates with Universidad del Valle de Mexico, compared children by age, gender, socioeconomic status, the IQ of their mother, nutrition and education. Read More

MSU announces third class of Hilleman Scholars, named in honor of world's most famous vaccinologist
From MSU News Service
JULY 30, 2018
BOZEMAN - Dozens of high school seniors from across the state of Montana have been selected for their effort and potential as the third class of Montana State University's Hilleman Scholars Program, named after Maurice Hilleman, one of the state's most influential, but least known, native sons.
"More than 70 years ago, a farm kid from Miles City changed the direction of his life thanks to a scholarship to MSU," said MSU President Waded Cruzado. "In so doing, he also changed the direction of the world, saving hundreds of millions of lives along the way.
"This scholarship program honors the legacy of Maurice Hilleman and the potential of the sons and daughters of Montana through this scholarship," Cruzado continued. "We want to help them be the next ones to change the world."Read More

$3M grant going to University of Montana students pursuing health careers
MISSOULA - There could be a future doctor out there right now who will never get to be an MD because it might be too expensive, or they won't get a lot of encouragement to even try.
But the University of Montana School of Pharmacy just received a new grant that could help bring the best and brightest to the forefront of medicine.
These are first-year pharmacy students at the University of Montana. It's a competitive and academically tough program.
Not all will make it, for many reasons. A career in medicine is challenging enough, and for some, even more so.But the UM Skaggs School of Pharmacy just received a new grant from the U.S. Health Resources and Services Administration to assist future students who won't have an easy road to graduation."They're low income. They are first-generation students. They might have been in a high school that had no science labs," said Professor Lori Morin. "They may have come from a community with no role models. That means they need to have some help to catch up, to get up to speed when they're applying to a particular health care program."**Read More**

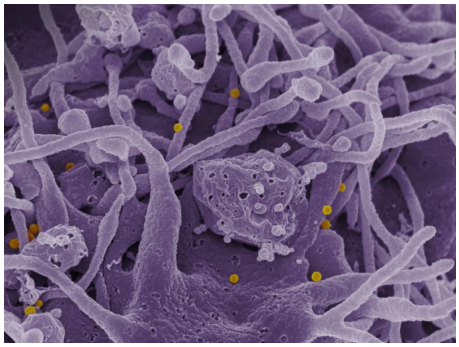
INDUSTRY NEWS

National Institute of Allergy and Infectious Diseases

NIH Scientists Develop Macaque Model to Study Crimean-Congo Hemorrhagic Fever

April 9, 2018

Crimean-Congo hemorrhagic fever (CCHF) is a viral disease spread by ticks in the Middle East, Asia, Africa and parts of Europe. Infection with CCHF virus is fatal in nearly one of every three cases. No specific treatments or vaccines for CCHF exist, primarily because a suitable animal model for studying the disease has not been available. Scientists have used mice to study CCHF but had to weaken their immune systems to cause infection. Studies in larger animals have not consistently



replicated human disease.

Read Article Here

Scanning electron micrograph of CCHF viral particles (yellow) budding from the surface of cultured epithelial cells from a patient. Credit: NIAID

From BioCentury 2:36 pm MDT Oct 1, 2018| BC Extra | Company News

BARDA, Genentech partner against influenza, health security threats

HHS's Biomedical Advanced Research and Development Authority and Genentech Inc. partnered to develop products to fight influenza and other health security threats.

BARDA initially will provide $43 million over five years to develop baloxavir marboxil to treat severely ill patients hospitalized with seasonal or pandemic influenza infections and $19 million over 19 months to support the development of alteplase to treat lung injuries caused by sulfur mustard gas.

HHS said there are no FDA-approved therapeutics for use by severely ill patients hospitalized with influenza or to treat inhalational injury due to sulfur mustard.

BARDA and Genentech will jointly manage development and share development costs. The deal also gives BARDA access to Genentech's portfolio of influenza and other medical countermeasure products, including diagnostics and therapeutics.**Read More**

EMPLOYMENT AND FUNDING OPPORTUNITIES

2019 Contract Solicitation Funding Opportunity Now Available
Application deadline: Oct. 22, 2018, 5:00 p.m. ET

The National Center for Advancing Translational Sciences (NCATS) at the National Institutes of Health invites small businesses to apply for funding through the 2019 Small Business Innovation Research (SBIR) contract to support small businesses interested in developing innovative health technologies.

The deadline for submitting proposals is Oct. 22, 2018, 5:00 p.m. ET.
NCATS' contract funding topics for 2019 include:

- **Synthetic Technologies for Advancement of Research and Therapeutics (START)**
- **Universal Medium/Blood Mimetic for Use in Integrated Organs-on-Chips**
- **Non-PDMS Biocompatible Alternatives for Organs-on-Chips**

Important Dates:

- **Aug. 16, 2018: Contract Funding Webinar (Register today!)**
- **Aug. 31, 2018: Q&A Deadline**
- **Oct. 22, 2018: Solicitation Deadline**

View the solicitation for more information about contract eligibility, topics, award amounts, submission information and timelines. Applicants are strongly encouraged to read the contract solicitation carefully and must use the electronic Contract Proposal Submission (eCPS) website to submit their proposal. No other method of proposal submission is permitted.

For questions on NCATS SBIR contract topics, please contact NCATS Contracting Officer Jeffrey Schmidt at jeffrey.schmidt@nih.gov.

Connect with us! Like us on Facebook and follow us on Twitter. Use #NCATSsbir and join the online conversation.

NCATS' SBIR and STTR programs are engines of innovation for developing and commercializing tools, technologies and intervention platforms to support the creation of new therapeutics and diagnostics. SBIR and STTR are government set-aside programs for domestic small businesses to engage in research and development that has the potential for commercialization and public benefit.

GSK Hamilton

The Hamilton site is located on a 35-acre campus in the heart of the scenic Bitterroot Valley of western Montana. It started in 1981 as Ribi ImmunoChem Research, Inc., a company focused on research and development of vaccine components capable of stimulating the immune system. GSK purchased the site in 2005 to acquire its proprietary adjuvant technology which is used to help make vaccines more effective. GSK Hamilton currently employs over 185 professionals and is expanding its job base with the addition of a new adjuvant manufacturing facility.

To review current openings at the GSK Hamilton (GlaxoSmithKline) site please go to https://www.gsk.com/en-gb/careers/careers-search/?q=&bu=&r=usa&city=hamilton&et=&prog=

WHAT'S HAPPENING?

BIO International Convention - June 3- 7 2018

What a history-making week in Boston! A whopping 18,289 U.S. and international attendees - the most in the last 10 years - joined in the epicenter of the biotechnology industry for four days of inspiring programming, 46, 916 partnering meetings.
In celebration of the 25th anniversary, we reflected on the incredible progress of the last 25 years and the innovations making history today and still to come. We were also joined throughout the week by trailblazers of our past and future, including:

- Ashanthi De Silva, the first patient in the world to receive gene therapy, who joined BIO President and CEO Jim Greenwood on stage - more than 25 years since her brave procedure - to receive the first-ever BIO History Award.
- 15 student winners of the 2018 BioGENEius Challenge - the premier competition for high school students from across the globe - who were recognized for their outstanding research and innovation in biotechnology. This year, finalists came from across the U.S., Canada and Germany.
- Celebrities including award-winning journalist Robin Roberts and actor, director and advocate Rob Reiner, who shared stories of triumph over cancer and addiction

The Montana BioScience Alliance was well represented at the BIO International Convention in Boston, June 4-6. Companies represented were: Stan Abel, SiteOne Therapeutics, Rob Goodwin, Vibilome,and Guy Cipriani and Karim Lajii from Microbion,. We also welcomed board member, Tim Layton from Genentech and Tim Martin from Amgen. We were very fortunate to have two students from Montana State University join us in the booth. Cara Robertus and Connor Hoffmann attended the convention and kept the booth running - doing a great job promoting Montana Bioscience. Special

thanks to Renee Reijo Pera for making the arrangements.
The first day of the convention, along with the CSBA members, we toured the Novartis Institutes for Biomedical Research NIBR) Cambridge Massachusetts and were able to attend a session with James (Jay) Bradner, President of NIBR.

At the July 23 annual meeting of the Montana BioSciencde Alliance in Missoula, election of officers was held. Officers elected are: Stan Abel, President/Chair, Ron Zook, Vice Chairman, Carol Beam, Treasurer and Chris Aageson, Secretary. Board members reelected are: Mark Jutila, Teresa Gunn, Ron Zook, John Delaney, and David Crum.

EVENT'S CALENDAR

White Hat Life Science Investor Conference

:

The West was won by innovators, investors, and prospectors who understood the value of discovery and accepted the challenge of investing in new frontiers.

Join us to meet a new generation of biotech and healthcare pioneers at the White Hat Life Science Investor Conference (WhiteHatInvestors.com), the biotech and healthcare investor conference that showcases the best of the Rocky Mountain & Southwest Region at the Phoenix Convention Center on October 3 & 4, 2018.

AZBW Partnering can help schedule your meetings with the people to whom you want to connect. AZBW Partnering invites will be extended to registered attendees beginning Sept 1. 2018.

Tour #1 - The Highline
Speakers
Wednesday, OCTOBER 3

7:00 PM — **Great Falls College - Heritage Hall**
2100 16th Avenue South
Great Falls, MT

Thursday, OCTOBER 4

9:30 AM — **Pondera Senior Center**
311 S. Virginia Street
Conrad, MT

12:00 PM — **Shelby High School**
1001 Valley Street
Shelby, MT

5:00 PM	MSU-Northern - Hensler Auditorium 300 13th Street W Havre, MT
	Friday, OCTOBER 5
9:30 AM	Aaniiih Nakoda College 269 Blackfeet Avenue Harlem, MT
12:00 PM	Great Northern Hotel - Lodge Room 2 South 1st Street East Malta, MT
5:00 PM	First Christian Church - Sanctuary 103 12th Avenue South Lewistown, MT

For More Information regarding Tour two and three

BIO INVESTOR FORUM

October 17-18, 2018
The Westin St. Francis * San Francisco, CA
Accelerate Discovery.
Amplify Returns

The BIO Investor Forum is an international biotech investor conference focused on early and established private companies as well as emerging public companies. The event features plenary sessions, business roundtables and therapeutic workshops, company presentations, and BIO One-on-One Partnering™ meetings.

BIO 2019

Save the Date! Philadelphia, PA | June 3-6, 2019

The BIO International Convention is hosted by the Biotechnology Innovation Organization (BIO), which represents more than 1,100 biotechnology companies, academic institutions, state biotechnology centers and related organizations across the United States and in more than 30 other nations.
The key benefits of attending the 2019 BIO International Convention are access to global biotech and pharma leaders via BIO One-on-One Partnering, exposure to industry though-leaders with over 500 education sessions at your fingertips, and unparalleled networking opportunities with 16,000+ attendees from 74 countries.

CLASSIFIEDS

Bio Business Solutions® Value Through Cost-Savings

Through its partnership with the Biotechnology Innovation Organization (BIO), the international organization that represents the biotechnology industry, MBA offers its members the opportunity to take advantage of several of the BIO Business Solutions® programs, as listed below. Click on the company name to learn more about an individual program.
There is no fee for MBA members to utilize any of the programs and BIO membership is not a requirement for MBA members.

Illumina-Gene Sequencing Solutions

UPS-Shipping Services

American Laboratory Trading, Inc. (ALT)
Premium Refurbished Laboratory Equipment and Asset Management Services

VWR International
Laboratory Supplies, Equipment & Chemicals

Chubb
Property and Casualty Insurance, Clinical Trials Liability Insurance, Errors and Omissions Liability Insurance, Professional Liability Insurance, Products Liability Insurance

Office Depot
Office Supplies, Furniture, Equipment and Technology Products/Design, Print, and Ship Services

Business Wire
News & Multimedia Distribution, Social Media Monitoring, Financial Disclosure Services

Aon Risk Solutions
Executive Liability Insurance

UniFirst
Workwear Services

UniClean
Cleanroom Services

Clean Harbors
Environmental Services

ShareVault
Secure Document Sharing & Virtual Data Room Solutions

Airgas
Packaged & Bulk Gases

Humboldt
Moving and Storage

Nikon Instruments
Nikon Research Grade Microscope Systems

VWR International - Med Device
Controlled Environment, Production, & Safety Portfolio

MONTANA BIOSCIENCE ALLIANCE
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
Executive Director
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