COLORADO

Bioscience

2015-2016

MAKING CONNECTIONS

Bringing the bioscience community together with critical resources

P. 16
Connection Points in Colorado

P. 11
Changing the Face of Healthcare

P. 40
Colorado Bioscience Industry Directory

P. 6
The Path to Commercialization

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Look into Colorado

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IN THIS ISSUE

06 The Path to Commercialization

11 Merging Technologies and Disciplines: Changing the Face of Healthcare

16 Connection Points in Colorado

18 Webb-Waring Biomedical Research Program

20 Bridging the Gap from Discovery to Commercial Success: Colorado's Supportive Ecosystem

24 Incubators Help Bioscience Companies Develop and Commercialize Innovations

28 Interconnected: Colorado's Clinical Assets

30 Colorado by the Numbers

34 Grant Programs: Innovation Engines

40 Bioscience Industry Directory

P. 24

P. 11

Welcome to the Colorado BioScience Association's twelfth anniversary edition of *Bioscience Colorado*. This publication is a key resource for companies, investors and economic developers, and has become THE go-to source for our industry. With a total audience of over 8,000, including online impressions, this publication is one of the industry's greatest voices—locally, nationally and internationally.

Colorado's bioscience cluster is thriving, with nearly 600 bioscience companies that are moving from early-stage research and development through clinical trials and into full-fledged commercialization companies.

There are nearly 600 **commercial products** originating from Colorado's bioscience industry. That is a testament to the level of commitment, resources, networks and expertise within Colorado's bioscience eco-system to support and facilitate the formation of new companies, continued growth and the ability to get a product to market right here in Colorado.

Companies in Colorado have created important life-saving therapies and medical technologies. We are proud to have continually grown the industry and are excited for what the future brings.

Bioscience in Colorado truly is driving innovation, creating jobs and improving lives!

April Giles
President and CEO
Colorado BioScience Association

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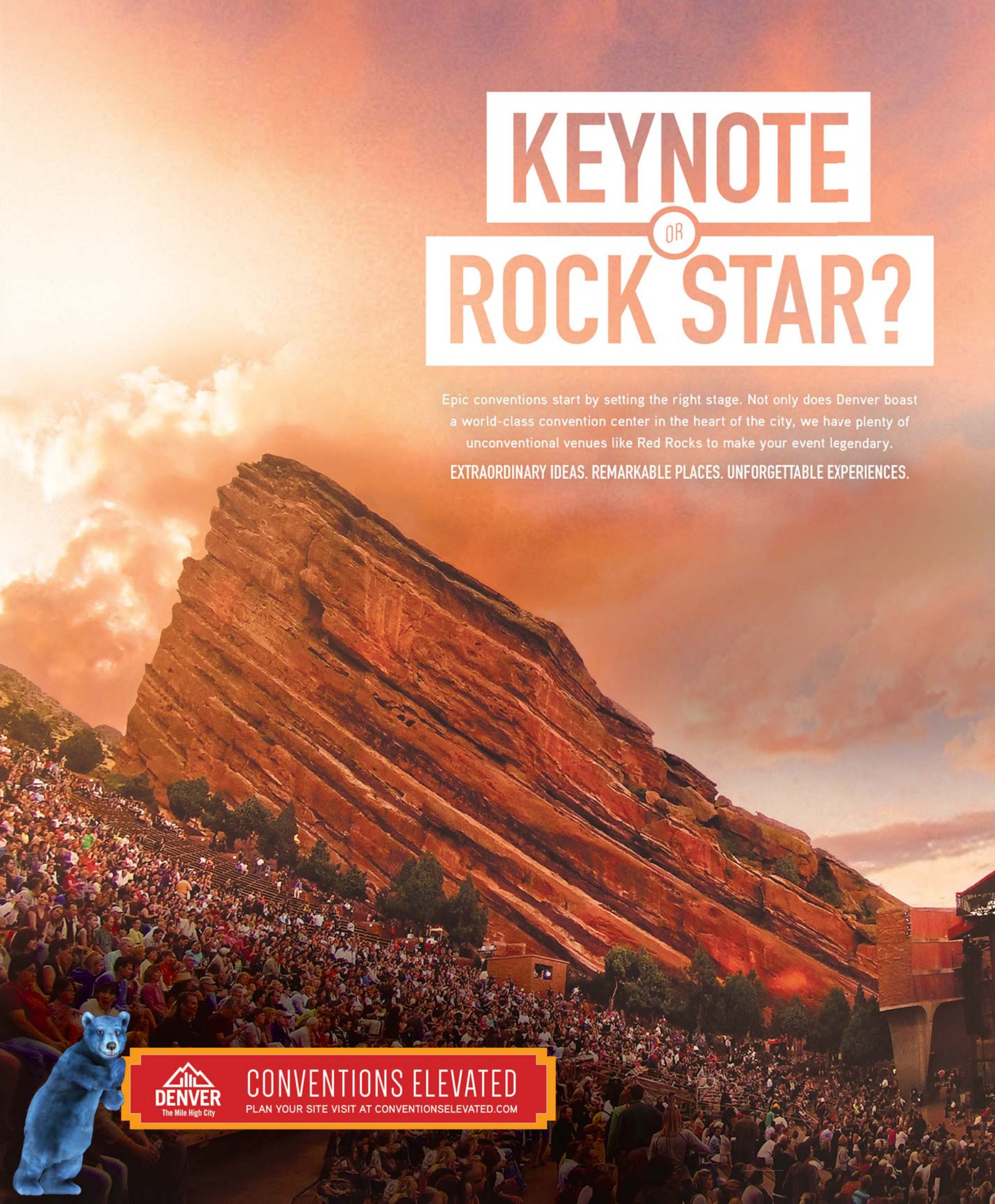
KBI Biopharma Acquires Biologics Operations in Colorado.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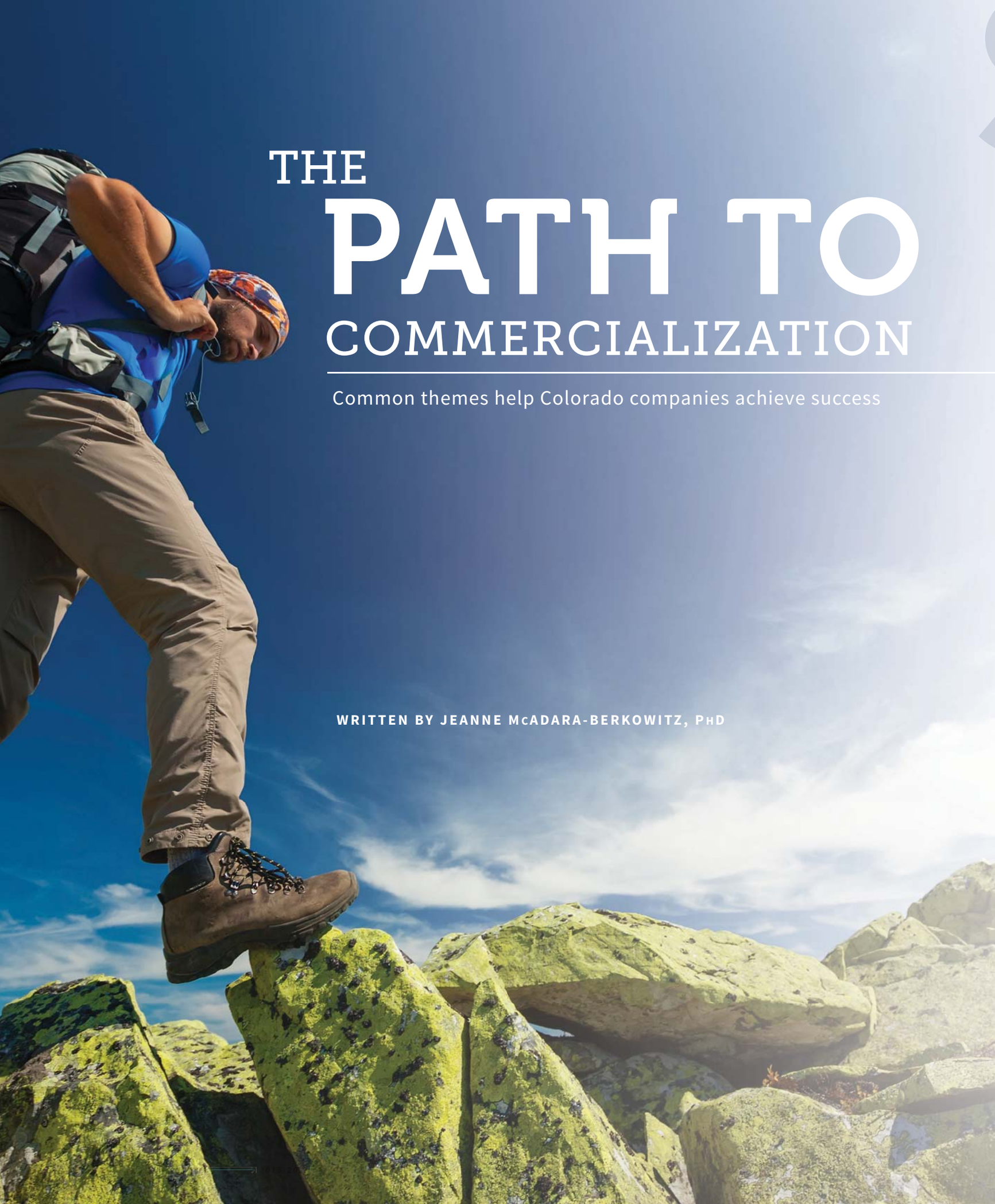


THE PATH TO COMMERCIALIZATION

Common themes help Colorado companies achieve success

WRITTEN BY JEANNE McADARA-BERKOWITZ, PhD

it down for coffee with your average Colorado bioscience insider, and inevitably the discussion will turn to the industry cluster's progress since 2003. That is the year the Governor's office released what is now known affectionately as "the Battelle Report." Most agree that the flurry of activity following that report has spurred immensely positive and lasting changes in the state. However, the prevailing view also holds that Colorado's relatively young industry cluster remains start-up heavy, and that companies still have to leave the state in search of the funding and partnerships they need to get them to the next stage.

Despite that view, ample evidence suggests that Colorado bioscience is approaching a new milestone in its evolution. With an increasing number of homegrown product approvals and commercial successes, more companies are demonstrating that it is possible to successfully navigate the corporate life cycle from concept to commercialization without leaving the state.

Balancing diversity and focus

At first it can be hard to identify a common thread to explain the success behind this eclectic collection of medical device, pharmaceutical and biotechnology companies. But look deeper, and certain patterns emerge. Development of a platform technology with the potential for wide-ranging applications is one example—many companies cite a commitment to focused product diversification as a critical factor both to their commercial success and, ultimately, to their ability to remain independent.

> With an increasing number of homegrown product approvals and commercial successes, more companies are demonstrating that it is possible to successfully navigate the corporate life cycle from concept to commercialization without leaving the state.

A prominent example is **TOLMAR, Inc.,** a fully integrated pharmaceutical company headquartered in Fort Collins. Although TOLMAR took its current form in 2007, its roots go back to 1990, when its predecessor, Atrix Laboratories, was founded around a vision of developing and commercializing pharmaceutical products in dentistry. Within a few years, the company's leaders began to appreciate that they had developed something more fundamentally important to the company's long-term survival than any single dental drug—their polymer-based, extended-release drug delivery system Atrigel.

"They quickly realized they had stumbled upon a very valuable platform technology for human systemic drug delivery," says TOLMAR's current CEO Mike Duncan. Around that time, the company began to build a more diverse product portfolio, acquiring a dermatology business and developing a prostate cancer therapeutic it recognized could be a blockbuster.

"We wanted to avoid a big-pharma buyout, because Eligard had such huge potential," says Duncan. "We didn't want to be acquired for one product and then have the rest of our business divested and sold off. We knew that we'd need to diversify in order to protect ourselves from being too attractive as an acquisition target."

The strategy has paid off. Since that time, through a series of acquisitions and partnerships, TOLMAR's current portfolio has grown to more than 25 marketed prescription products, with 25 additional product launches planned by the year 2020. Eligard is now the world's second-leading treatment for prostate cancer. The company employs more than 450 employees in seven facilities around northern Colorado, and a large additional manufacturing plant is scheduled to open in 2016.

Colorado Springs-based **Spectranetics** has also found success in generating a diverse product line based on a focused platform. Spectranetics was founded 30 years ago to pursue the clinical development of excimer laser technology coming out of research at the Air Force Academy.

Today, the product lines of the company's two principal business units address needs in peripheral artery disease, such as critical limb ischemia and in-stent restenosis, and in the lifetime management of cardiac implantable electronic device leads. But Donna Ford-Serbu, senior vice president of sales and marketing for Spectranetics' lead management business, says the company always keeps the clinical need foremost.

"We focus on attacking specific clinical needs rather than developing any one specific tool," says Ford-Serbu. "Going forward, we will continue our organic, research-driven growth while also supplementing our portfolio through business development as we find interesting innovations that fit with our clinical goals."

In support of this product growth strategy, Spectranetics last year acquired AngioScore, Inc., a Fremont, California, based company that manufactures and sells cardiovascular specialty balloons. The company also recently completed the acquisition of the Stellarex™ drug-coated balloon angioplasty platform from Covidien.

Silvergate Pharmaceuticals, founded in 2010 and based in Greenwood Village, has married diversity with focus by identifying opportunities within a niche market that has

TOLMAR

- **25 marketed prescription products**
- **25 additional product launches by 2020**
- **450 employees**
- **7 facilities in northern Colorado**

At Spectranetics, a teammate inspects the luer connection on a QuickCross catheter. The company's products are sold in over 65 countries and are used to treat arterial blockages in the heart and legs, and in the removal of pacemaker and defibrillator leads.

Silvergate Pharmaceuticals' first product, Epaned®, an enalapril maleate powder for oral solution, is targeted to pediatric patients.

generally been overlooked by larger companies. As a trained pharmacist with 30 years of diverse pharmaceutical industry experience, President and CEO Frank Segrave had noted a recurring unmet need for reformulating approved pharmaceuticals for pediatric populations.

"By and large, big pharma companies have to concentrate their efforts developing molecules for mass markets," says Segrave. "In hypertension, for example, they're treating 30 million US adults with a drug like enalapril. The pediatric market is only about 100,000 kids, and that's just too small to be viable for them."

> There is a strong need for drug formulations that meet the specific physiologic and developmental needs of children. – FRANK SEGRAVE, PRESIDENT & CEO, SILVERGATE PHARMACEUTICALS

As a result, he says, while pharmaceutical companies evaluate drugs' efficacy and safety in children, the commercialized drugs are often formulated as tablets and in adult-sized doses.

"Every day in children's hospitals and in community pharmacies across the country, there are kids who need a specific approved medication but are too young to just swallow a pill," says Segrave. "There is a strong need for drug formulations that meet the specific physiologic and developmental needs of children."

The company's first product, Epaned® (enalapril maleate powder for oral solution), was approved in September 2013, and several more are in the development pipeline. Segrave says that Silvergate Pharmaceuticals' focus will remain on the underserved pediatric market, but within a very diverse range of disease states.

A Surefire Medical cleanroom

"There are so many pediatric diseases that are important from a patient point of view," he says. "The effort is not easy, and there is a tremendous amount of work and difficult formulation science that goes into our products, but we see so many opportunities."

Surefire Medical, based in Westminster, is another company whose platform technology holds the promise of diverse clinical application. The company was formed in 2009 by current CEO Jim Chomas, PhD, and co-founder Aravind Arepally, MD, who together developed the company's Surefire Infusion System MT/LT. This catheter-based system delivers therapeutic agents directly to a desired treatment site within the peripheral vascular system—for example, the blood supply feeding a secondary breast-cancer metastasis within the liver—while the catheter's expandable tip blocks reverse blood flow to improve therapeutic targeting. Again, although the company maintains a focus on its drug-delivery platform technology, the potential applications are broad and include delivery of drugs, radiation therapy, embolics and imaging agents for a wide range of disease states, including cancer, obesity and many others.

Founded in 2000, Boulder-based **SomaLogic** is yet another company developing a diverse product portfolio within a focused platform. The company's commercial products are based on two interrelated technologies: a novel, proprietary class of protein-binding molecules called slow off-rate modified aptamers, or SOMAmers, and a multiplex proteomic assay called SOMAscan. Together, these innovations enable the simultaneous detection and quantification of more than a thousand distinct proteins in biological samples of interest. Several of the individual SOMAmers are now being evaluated for potential as therapeutic agents.

Byron Hewett joined SomaLogic as its CEO in 2013. Taking over for founding CEO, current chairman and Colorado bioscience icon Larry Gold, PhD, Hewett was charged with building out the commercial infrastructure of the company. He says that in principle each SOMAmer has commercial potential on its own and in combination with the others.

"When I joined, Larry joked, 'how often do you walk into a new company and have 1,129 products to take to market?'" laughs Hewett. "The reality is, that kind of product diversity is extraordinarily unusual, but we see 1,129 as just the beginning. We're very excited about developing the many opportunities we have with this platform."

Funding strategies influence corporate destiny

Although product diversity may prove to be an essential factor in a company's commercial success, it is not enough to ensure independence. As Hewett explains, the pressures inherent to corporate financing and investment strategies can ultimately determine a company's destiny.

"We've seen that one reason bioscience companies start up in Colorado but can't stay here long-term is that there is a

fundamental mismatch between many venture capitalists' funding models and the healthcare product development life cycle," says Hewett. "With a five-year life on their funds, VCs need an exit to recoup their investment and fulfill their obligations to their limited partners. But companies in this space need four to 10 years to get a product to market. That can be problematic for healthcare companies who rely on VC funding."

Chomas agrees. "As a startup, you have to raise financing, of course—since 2009 Surefire has raised $26 million—but it has been a very tough environment. The product development cycle is slow for medical devices and other bioscience, and that can sometimes surprise investors who are used to the rapid innovation in software and technology fields."

Hewett says that when Gold founded SomaLogic, his previous company NeXstar Pharmaceuticals had recently merged with Gilead Sciences. Gold was fortunate to be able to draw on this personal experience and the associated financial success to maintain close control over his vision for SomaLogic.

"Larry wasn't very happy when they took the [NeXstar] science out to the West Coast," says Hewett. "But when he founded SomaLogic, he was in a better position to fund the company himself. Of course he brought in strategic partners, but he specifically structured it so that he could maintain control and independence, and pursue his vision without undue pressure to cut an exit deal other than what was in the best interests of the company and shareholders."

> "The product development cycle is slow for medical devices and other bioscience, and that can sometimes surprise investors who are used to the rapid innovation in software and technology fields."

This move turned out to be critical to the longevity of the company because, although the fundamental science behind the SOMAmer technology was sound, it was also so novel that the company had to spend nearly a decade of R&D fine-tuning the technical aspects of the product.

SomaLogic's founder-financed strategy is somewhat unusual, and indeed the other companies profiled here have grown mostly through internally generated capital or public markets, or cite unusually patient venture investors. Hewett is optimistic, however, that Gold's serial entrepreneurship model will become more common as the local cluster matures.

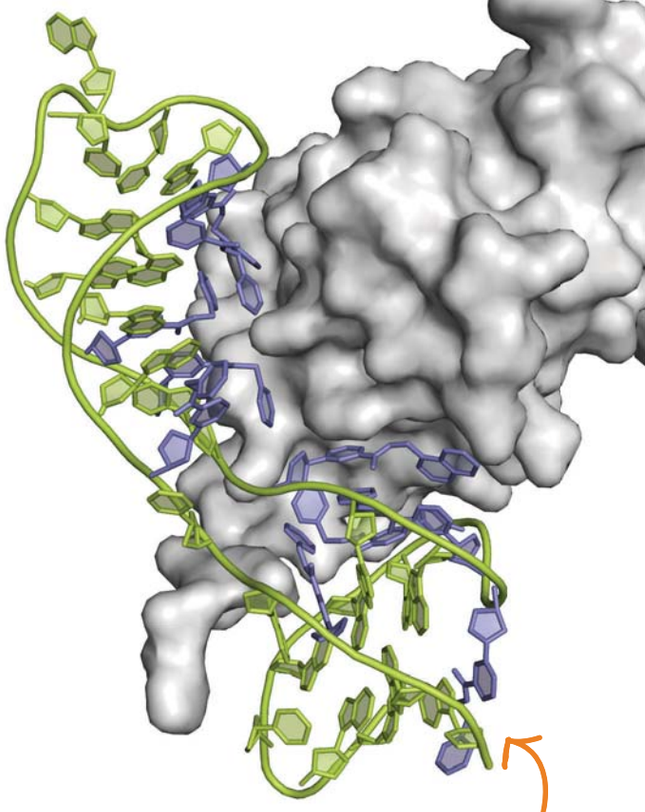
"When entrepreneurs succeed, they want to see others do the same," says Hewett. "As more entrepreneurs gain experience and have good exits, we may see more reinvestment into the local economy as they support and nurture the next generation of startups here in Colorado."

Close community fosters success

While the long-term outlook for bioscience startups in Colorado continues to improve, the question remains: what drives entrepreneurs to put down roots here, when running a bioscience company would arguably be so much easier on the West Coast or Eastern Seaboard? Intangibles like quality of life may always be a strong factor, but executives also cite a business culture that has more than made up for challenges they have faced.

"Of course we at Surefire Medical all love living in Colorado, but the closeness of the business community here has had significant benefits as well," says Chomas. "I spent 15 years in the medical device industry in Silicon Valley, and there are just so many people there that you don't feel like part of a tight-knit community the way you do here. Here we meet regularly with the universities, with the Colorado BioScience Association, and with state and local leaders to talk about our needs and help them understand how we can all work together to get things done. I would never have thought to go to the state of California for those kinds of discussions, but here it's possible, and that kind of networking is powerful."

In fact, the strength of those relationships proved enough for Surefire Medical to move their manufacturing facilities to Colorado from Miami Lakes, Florida. "While we were headquartered here from the beginning, we had a partner in Miami Lakes with a clean room, machine shop, ISO certification and a fully developed QC system to help us get our first product to market. And that area has a large concentration of companies in medical device manufacturing,



An illustration of a SOMAmer, or a slow off-rate modified aptamer, which is a novel proprietary class of protein-binding molecules developed by SomaLogic.

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so it was helpful to be able to tap into that experience pool initially." Eventually, however, the State, county and city provided Surefire with enough incentives and support that it made sense to bring the manufacturing facilities and jobs here to Colorado.

Duncan, too, sees underappreciated value in the closeness of the local bioscience community. He points out what he sees as reduced competition for the services of the FDA's Denver District Office.

"Once it's ready, our new plant won't be able to come online until we have our FDA inspection," he says. "With such a high density of companies in places like New Jersey, it can be hard to get time and attention from the FDA there. We've found the FDA here to be easy to work with—we can let them know what's coming up with our construction so they can plan their workload, and just generally have a productive running dialogue with them."

Inside Surefire Medical's manufacturing facility.

According to Segrave, community support was also fundamental to Silvergate's success. "In just a few short years, we grew from a concept to an extremely small R&D enterprise to building an entire infrastructure including compliance, finance, legal, administration, sales, commercialization and more. We essentially built a company from nothing, and we had to figure out how to do everything from selecting a building to finding an IT provider. We found a great support structure here in Colorado, with people willing to say 'whatever you need, we'll help you figure it out.'"

Adds Hewett, "Larry came to Boulder 40 years ago as an assistant professor, and his commitment to Colorado is deep; this is home for him. But there's a good business case for staying here, too. We have Nobel-prize winning scientists at the university, and they are the nucleus of a culture of invention and innovation. There is a lot of talent here, a lot of productivity here, and it makes sense to keep that in place and build up the commercial infrastructure around it.

"We can successfully attract high-quality employees from outside Colorado to fill in any gaps in knowledge and experience," Hewett continues. "But at least for us, it is important they live as well as work here. The opportunities are so vast, we need them to be in it up to their eyeballs with the rest of us."

MERGING TECHNOLOGIES AND DISCIPLINES:

Changing the Face of Healthcare

WRITTEN BY ADAM RUBENSTEIN

Back in 1965, Intel Corporation co-founder Gordon E. Moore put forth an observation that over the history of computing hardware, chip performance would double every two years while costs will continue to come down. What has become known as Moore's Law is, to this day, some 50 years later, gospel in the semiconductor industry. Moore's Law has subsequently been adopted, in a generic sense, across a variety of industry sectors, and there is no doubt the Colorado bioscience ecosystem is the beneficiary of this logarithmic acceleration of technological innovation.

The rapidly emerging field of HealthIT, leveraging elements such as cloud services and state-of-the-art chips, is the most obvious example of adhering to Moore's Law. We find many examples of these cutting-edge Colorado companies integrating themselves with more traditional life science enterprises, e.g. in the context of companion diagnostic capabilities of traditional therapeutic development, accelerating the computational analytic power to deliver on the promise of health informatics, and pairing with the medical device field to offer breakthrough advances in the

Credit: Patrick Campbell, University of Colorado

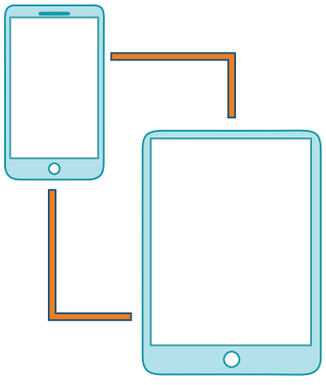
University of Colorado BioFrontiers Institute Professor Stephanie Bryant sets up a bioreactor in her lab with the help of graduate student, Stacey Shaalure. The bioreactor helps Bryant with her research on how implanted materials react to biological stressors.

A cross-disciplinary, collaborative workforce

Colorado bioscience is not only at the cutting edge when it comes to incorporating a diverse array of emerging technologies to drive new industries such as HealthIT. Our talented workforce is taking a similar cross-disciplinary approach towards uncovering new knowledge at the frontiers of science. This excellent work is transpiring at the **BioFrontiers Institute** at the University of Colorado, where researchers from the life sciences, physical sciences, computer science and engineering collaborate with each other and, when appropriate, also partner with industry to translate discovery into commercial applications.

identification, prevention and treatment of disease. Let's visit with some of these Colorado bioscience pioneers and innovators.

Mobility has changed the way we live, and Denver-based **CirrusMD** has taken advantage of this megatrend. The company is developing a mobile physician access solution for large healthcare organizations by enabling convenient access and timely medical care from local physicians in a way that is similar to how doctors address concerns for their friends and family—through text and video chat. The HIPAA-compliant platform allows providers to offer secure scheduled video visits, text messaging and image sharing for patients over smartphones, tablets and computers. CirrusMD recently announced the launch of MyDigitalMD for members of Rocky Mountain Health Plans to access board certified physicians 365 days a year and, where appropriate, avoid unnecessary trips to the emergency room, urgent care or doctor's office.



The New England Healthcare Institute estimates that $290 billion in avoidable medical spending is generated annually by people not taking their medicine as prescribed. Lack of medication adherence has serious ramifications for patients that results in higher health-related costs for insurers and employers. Denver-based HealthIT company **RxAssurance** is focused on delivering solutions that address what happens when a patient leaves the care of their provider by bringing together behavioral game theory, the psychology of online user interaction and global availability to keep patients working towards healthy habits. The RxAssurance Engagement Platform is designed to eliminate unnecessary utilization through proactive interactions, return cost savings to providers and payors, and give patients tools to find long-term success after their treatment.

The BioFrontiers Institute maintains four cores of strength and expertise:

1 » working with large data sets and genomics to surface difficult-to-access information and model biological processes,

2 » using bioimaging to visualize, measure and understand biological processes,

3 » creating new therapeutic paradigms to support the development of new drugs, vaccines and other approaches to improve human health, and

4 » studying regenerative biology to engineer new medical solutions.

Colorado's own Thomas Cech, PhD, who was awarded the Nobel Prize for his discovery of the principle of RNA catalysis and is the recipient of the National Medal of Science and the Albert Lasker Basic Medical Research Award, directs the Institute. Immediately prior to assuming his leadership role at the BioFrontiers Institute, Cech spent nearly 10 years as president of the Howard Hughes Medical Institute.

Not long ago, **Nanoly Bioscience**, a startup spinout company incubated within the BioFrontiers Institute, was honored by the San Jose, California, based Tech Museum of Innovation with its prestigious Tech Award. In addition, Nanoly cofounder and MD/PhD candidate Balaji Sridhar traveled to Silicon Valley to accept the Katherine M. Swanson Young Innovator award for his work with the company. Nanoly was one of 10 teams from around the world selected as winners. The company is developing a non-toxic polymer that can be blended with vaccines to prevent spoilage without refrigeration, and then disassembles upon exposure to light so that the vaccine is ready for delivery.

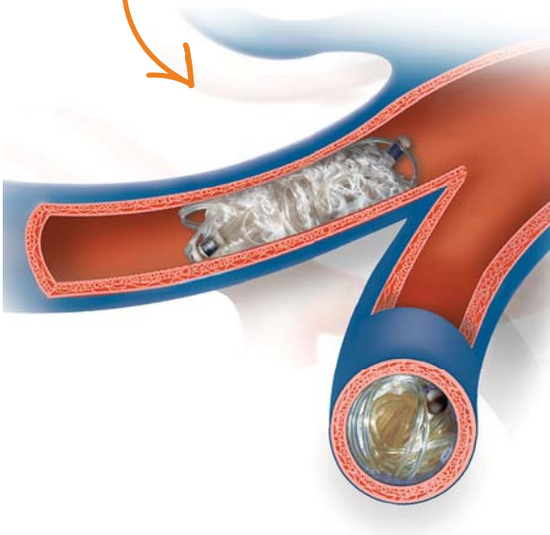
The collaborative nature of Colorado clinicians and researchers is further evidenced by some special work at the Children's Hospital Colorado. There, the hospital's Heart Institute has teamed up with the department of bioengineering at the University of Colorado to study three-dimensional imaging and heat-sensitive polymers, creating potential new medical devices to help treat congenital heart defects with minimal surgery. This 3D imaging creates a computer model and then constructs a physical prototype allowing cardiologists to practice procedures virtually or on the physical model. The work is being lead by Robin Shandas, PhD, professor of pediatrics and department chair. His seminal work on heat-sensitive polymers has lead to the spinout startup company **EndoShape**, whose mission is to commercialize novel medical devices based on proprietary polymer technology and focusing on the coil embolization and occlusion market. The company has received FDA 510(k) clearance for sale of its first product, Medusa® Multicoil, in the US.

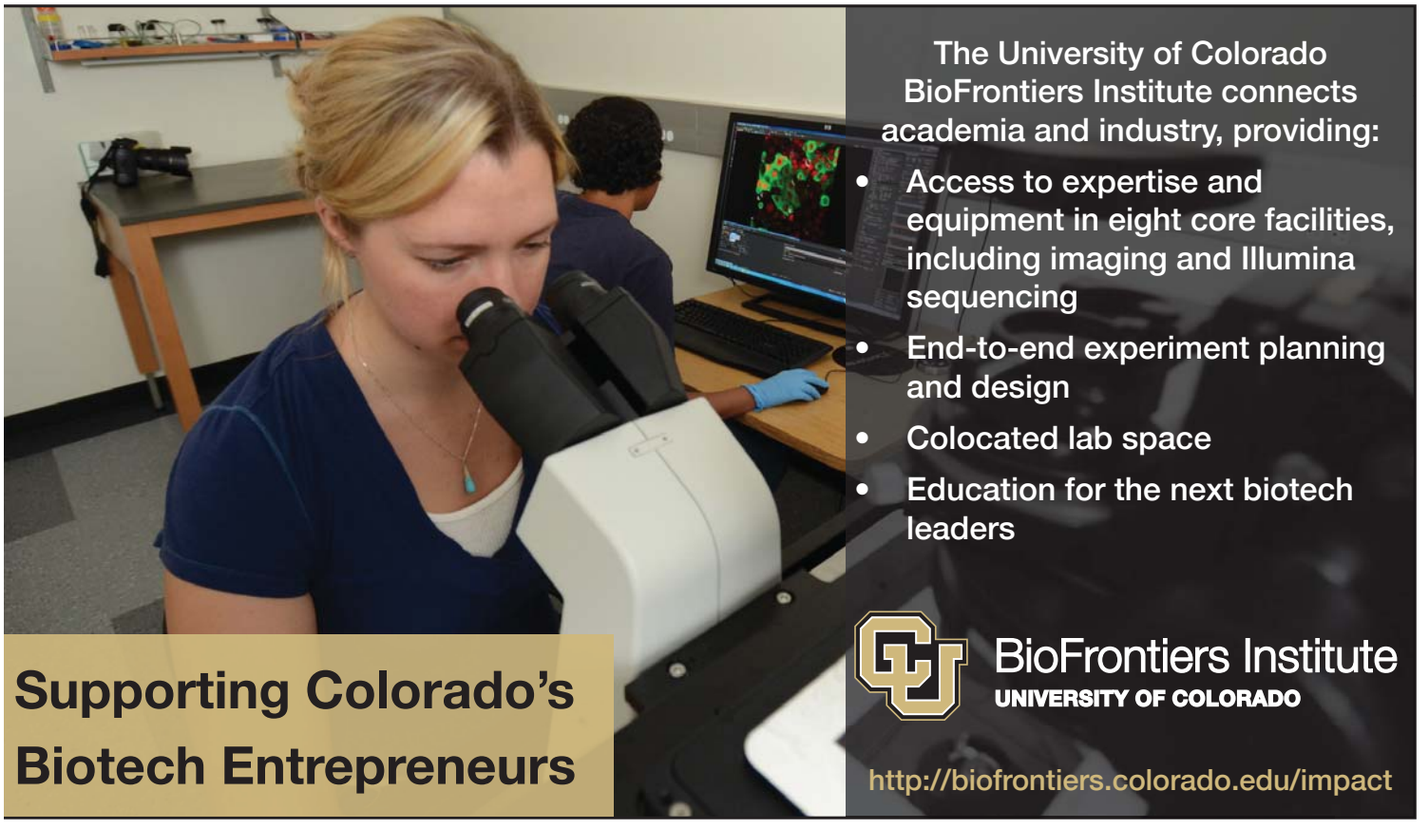
Data and its movement have dramatically evolved, thanks in part to the web, Wi-Fi and Bluetooth technologies. Aurora-based **Fluonic** is a medical device startup pioneering a new generation of infusion devices and information systems powered by a breakthrough microelectromechanical systems (MEMS) flow sensor technology. The Fluonic product precisely monitors and controls drug flow to the patient, instantly detects problems and documents compliance of patients. The flow sensor and regulator measure and control infusion rates with high accuracy and wirelessly communicate this information to HealthIT systems. Fluonic's initial opportunity is the reimbursed post-operative surgical-site pain infusion market, and the company has already successfully demonstrated that its technology works with the most commonly infused drugs, such as saline, opioids, heparin, serum albumin, antibiotics, insulin and epinephrine.

Boulder-based **Biodesix** was founded to apply the principles of complex data analysis and mass spectrometry to the discovery and development of improved multivariate tests that give physicians better information to understand the patient and their disease. Call it personalized medicine. By better understanding the clinically meaningful information contained within each patient's molecular profile, these tests function to improve diagnosis and therapeutic intervention combined with the intention of leading to better outcomes. The company has commercialized its first product, VeriStrat®, the first serum proteomic test for advanced, non-small cell lung cancer patients that helps physicians determine if a patient should receive treatment with Tarceva® (erlotinib). The company is not a one-product pony; there is also a platform in place to enable a spectrum of tests.

To enable the reliable use of mass spectrometry for the analysis of patient samples, Biodesix developed ProTS®, a technology platform that harnesses the power of mass spec and provides an unparalleled ability to analyze and compare complex data sets. ProTS enables the rapid discovery and validation of diagnostic tests that answer

EndoShape has received FDA 510(k) clearance for its first product, Medusa® Multicoil.





a wide range of clinical questions. The company has designed the tests to be non-invasive and require minimal amounts of readily accessible biological fluids such as blood or serum.

> By better understanding the clinically meaningful information contained within each patient's molecular profile, these tests function to improve diagnosis and therapeutic intervention combined with the intention of leading to better outcomes.

The BBS Revolution™ wireless probe device performs image collection and analysis with real-time, non-invasive scanning technology.

Littleton-based **dbMEDx** is a wireless medical device company that has developed the world's smallest wireless 3D ultrasound scan engine with an integrated image analysis. The BBS Revolution™ device wireless probe performs images collection and analysis. The real-time, non-invasive scanning technology combines the power and safety of ultrasound with sophisticated image processing electronics and software to provide simple and fully automated diagnostic measurements. The BBS Revolution™ is an automated bladder volume measurement device, which is an essential component of a comprehensive catheter associated urinary tract infection prevention program, and offers the advantages of rapid and accurate bladder volume measurement, a wireless and lightweight probe, minimal user training and no required aiming. Recently, dbMEDx announced that it received 510(k) clearance from the FDA to market this novel bladder scanner in the US, and sales are expected to begin in 2015.

How big is big data? Boulder-based **Flashback Technologies** might have something to say about that. The company has developed CipherSensor™, a computational engine that provides predictive decision support solutions to address data analysis needs. Flashback is focusing its efforts on developing algorithms to transform minimally invasive patient monitoring to provide clinicians with new tools to improve outcomes and reduce healthcare costs. CipherSensor™ integrates techniques that include classification, regression, clustering, semi-supervised learning, reinforcement learning and active-ongoing learning, with feature extraction techniques derived from robotics and computer vision. This integration enables the development of models for estimation, prediction and control derived autonomously from extremely large (many terabyte) data sets. As data increases or changes, the product is able to efficiently integrate this new knowledge into existing models without the need for relearning the model form scratch. Healthcare providers are typically unable to continuously monitor multiple vital signs from multiple patients 24 hours a day. Decisions regarding ongoing care and the application of life-saving interventions are historically made from qualitative "snap-shot" observations, without the benefit of observing trends and the dynamic nature of the evolving pathophysiology of illness or injury. Flashback, utilizing CipherSensor™ technology, is building a set of algorithmic solutions to address these unmet needs.

Wearable sensors are all the rage; just ask Tim Cook and Apple, right? Boulder-based **Prima-Temp's** new technology provides precise and accurate core body temperature measurements. A reliable and convenient product allows for continuous detection of subtle changes in temperature that is communicated directly to a smartphone. Their first product, Bloom, is a wearable sensor that benefits any woman who wants to effortlessly manage her fertility. Bloom is a self-inserted sensor that detects the subtle changes that occur before ovulation, and then sends an alert to a smartphone indicating when one is most fertile. Bloom pinpoints the window of fertility without having to actively engage in data collection. The company is developing additional products for the obesity and weight loss, sleep disorder and heat exhaustion markets.

Gordon Moore must certainly have a smile on his face. Who would have envisioned 50 years ago that the nascent semiconductor industry would have such a profound impact upon the world of bioscience? But that certainly is the case. Whether a company is developing a wearable device that communicates its data to a variety of sources to improve outcomes, or developing algorithms to surface potentially life-saving insights out of heaps of big data, or leveraging the web to connect cohorts more efficiently (which ultimately can save money for payors and providers), it is the convergence of cross-functional and disciplinary teams comprised of Colorado's best and brightest minds that is enabling the flourishing HealthIT sector.

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20 YEARS 141 COMPANIES

Startups at the University of Colorado

80%
OF STARTUPS
ARE STILL OPERATING

96 HAVE
OPERATIONS IN
COLORADO

8 HAVE
GONE PUBLIC

19 HAVE BEEN
ACQUIRED BY
PUBLIC COMPANIES

FY2013-14
CU STARTUPS RAISED OVER
$70M
IN FOLLOW-ON FUNDING,
(federal and state grants, venture financing and SBIR/STTR funding)
$6.2B
TOTAL FOLLOW-ON FUNDING.

BIOTECH/ BIOSCIENCES 89

SOFTWARE 19

PHYSICAL SCIENCES/ ENGINEERING 18

ENERGY/CLEANTECH 15

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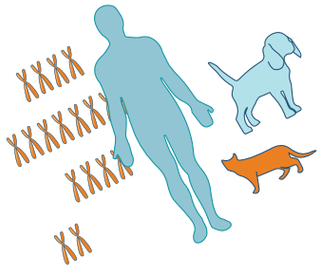
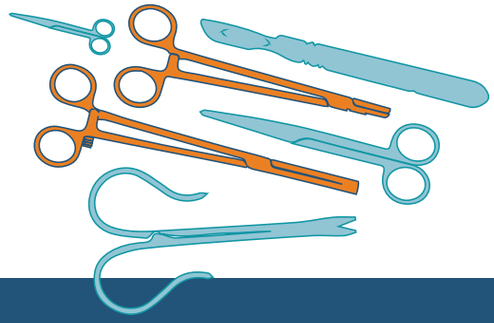
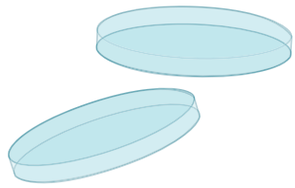






1 Research, discovery and optimization

DEVICE

Proof of concept
Prototypes
Risk analysis

PHARMA

Target validation
Lead optimization
Candidate

2 Development

DEVICE

Design controls

University of Colorado Anschutz Medical Campus
The concepts and subsequent multiple patents related to the genetically targeted use of Gencaro™ (bucindolol hydrochloride) were developed at Dr. Bristow's lab at CU.

University of Colorado Hospital
The hospital is one of the clinical investigative sites for the GENETIC-AF study (there will be approximately 60 in the US and Canada). Dr. Ryan Aleong is the Colorado site principal investigator.

CASE STUDY

ARCA biopharma, Inc. (Westminster)
A public biopharma company conducting Phase 2B/3 adaptive design clinical trial (GENETIC-AF) evaluating Gencaro™ as a genetically targeted potential treatment for atrial fibrillation (AF). If successful, Gencaro™ would be the first approved genetically targeted cardiovascular therapy.

Arrows point to involved Colorado entities

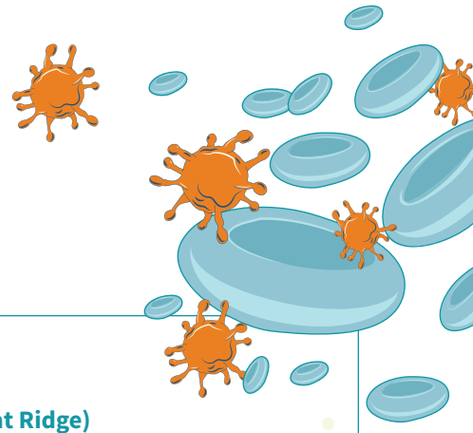
Pyxant Labs
Pyxant is conducting some of the testing/analysis for patients screened, and enrolled for the GENETIC-AF trial.

Medtronic
Medtronic and ARCA have entered into a collaboration agreement to support the GENETIC-AF trial.

See the **Directory on pages 40-62** for more information on companies and resources throughout Colorado.

Connection Points in Colorado

Colorado entities collaborate to move products through the development lifecycle.



Quest Research
Quest Research provided prototyping.

Syncroness
Syncroness engineered certain elements of the product.

CASE STUDY

BioFusionary, Corp. (Wheat Ridge)
BioFusionary develops products for tissue regeneration and repair to improve patient health, aesthetics and surgical procedures. Its first product, the Biofusionary Bebe™, is a non-invasive system that uses electromagnetic induction (EMI) to generate focused energy. It is cleared by the FDA and currently available for use by medical professionals.

Arrows point to involved Colorado entities

(clinical and non-clinical)

PHARMA

CLINICAL: Trials Phase I, II, III

NON-CLINICAL: Drug metabolism, Pharmacokinetics, Testing, Drug scale-up

CSU School of Veterinary Medicine and Pre-Clinical Research Services, Inc.
These two entities conducted pre-clinical animal studies.

Evergreen Research, Inc.
ERI is a partner for manufacturing development, quality system implementation and manufacture of BioFusionary's flagship product, Biofusionary Bebe™.

Manufacturing and commercialization

DEVICE

Pre-production
Production
Next-generation

PHARMA

Manufacturing
Compliance
Corporate

Webb-Waring
Biomedical Research Program

WRITTEN BY KRISTI ARELLANO

The award given to Boettcher Investigators

As the Boettcher Foundation enters its sixth year of funding biomedical research through its Webb-Waring Biomedical Research Awards, the philanthropic foundation hopes that the program can serve as an example to other states and funders seeking to advance the biomedical sciences.

The Foundation, established in 1937 by Claude Boettcher and his father, Charles, entered into a new arena when it expanded its funding to include biomedical research.

Prior to that, the Boettcher Foundation, which champions excellence across Colorado by investing in its most talented citizens and high-potential organizations, focused on scholarships, teacher training and capital grants to nonprofits.

The opportunity to create a new funding area focused on biomedical research came about when the Webb-Waring Foundation reached a pivotal crossroads.

> "Recipients of Webb-Waring Biomedical Research Awards, who become known as Boettcher Investigators, are awarded grants of $225,000, covering up to three years of research.

Founded in 1924 by Dr. Gerald B. Webb and later directed by Dr. James J. Waring, the Webb-Waring Institute has made significant contributions to the advancement of biomedical research, doing so largely by engaging in basic and clinical research and training research scientists. A separate but related entity known as the Webb-Waring Foundation helped to support the Institute's work.

The Webb-Waring Institute became part of the University of Colorado in 2008. At that time, the assets of the Webb-Waring Foundation were entrusted to the Boettcher Foundation, whose history of philanthropic giving in Colorado stretches back to 1937. The Boettcher Foundation and the University of Colorado also committed to matching Webb-Waring monies to create a new and permanent funding stream for biomedical research in the state.

"We had almost a blank slate and a creative opportunity to address the problem of biomedical research funding," said Denise Brown, founding executive director of the Colorado BioScience Association and a bioscience industry consultant who worked with the Boettcher Foundation to help establish the Webb-Waring awards. "The only string attached was that we do something in biomedical research."

Boettcher Foundation leaders approached the situation systematically, conducting extensive research on the biomedical research funding continuum. They met with and interviewed more than 30 stakeholders and experts in Colorado's bioscience community. At the conclusion of those interviews, the Boettcher Foundation staff determined that its investment would be most effective if it focused on the gap faced by early career investigators.

Early career investigators represent the future of the industry, engaging in exploratory research that will ultimately lead to the next generation of biomedical breakthroughs advancing human health. But this group of scientists – often within a few years of their first academic appointments – is facing an increasingly challenging environment for research funding.

"Colorado can only be a leader in scientific innovation if its most dynamic scientific minds are supported at early stages in their work," said Tim Schultz, president and executive director of the Boettcher Foundation.

Recipients of Webb-Waring Biomedical Research Awards, who become known as Boettcher Investigators, are awarded grants of $225,000, covering up to three years of research with a goal for them to establish themselves and become competitive for major awards from federal agencies and other major sources.

The Boettcher Foundation has so far funded 35 early-career biomedical researchers in Colorado through its unique approach, which unites philanthropic funding with the state's academic research institutions.

"Colorado has found a way to fit an important piece into the puzzle thanks to the partnership between philanthropy and academia," said April Giles, president and CEO of the Colorado BioScience Association. "We're excited about this partnership and believe it can be replicated by those interested in similarly supporting biomedical research and innovation."

A key component of the effort became the partnership between the Foundation and the state's research institutions. While the Boettcher Foundation staff was experienced at managing both scholarships and capital grant programs, the level of expertise necessary to evaluate and select such complex scientific research became a critical issue.

"It was important to us that we retain the merit and integrity of the peer-review process," Schultz said. "By partnering with the institutions and asking them to oversee the selection process, we were able to ensure that the research proposals are evaluated by experts who truly understand the research process."

To ensure that it is funding the most promising researchers and solid science, the Foundation relies on committees of researchers from the state's three largest research institutions to evaluate the proposals based on merit. The institutions then submit their top proposals

> Boettcher Foundation leaders say they hope the program can serve as a model for other states and regions seeking to advance biomedical research and support early-career investigators.

for funding from the Webb-Waring program. The state's smaller research institutions follow a similar process, only their review committee is made up of a cross-section of scientists from the state's larger institutions.

This approach takes advantage of the expertise that exists within Colorado's research institutions and employs the time-honored peer review process. It also minimizes the administrative resources required by the Foundation to support the Webb-Waring Biomedical Research Awards program. The diversity of the scientific disciplines and the complexity of biomedical research would make a single, centralized review process within the Foundation a difficult, time-intensive and expensive proposition.

With the Webb-Waring Biomedical Research Program now in its sixth year of awarding grants, the Boettcher Foundation has funded Investigators focused on a diverse range of research topics ranging from African Sleeping Sickness to pulmonary disease and Alzheimer's.

Perhaps more important, all of the Boettcher Investigators who have completed their funding cycles have been awarded significant grants from the National Institutes of Health or other major research funders. And while the sample is still small, early data indicates that the average age for Boettcher Investigators to get their first major funding awards is lower than the national average.

Now that the program is proving successful, Boettcher Foundation leaders say they hope the program can serve as a model for other states and regions seeking to advance biomedical research and support early-career investigators. Private funders, Boettcher leaders note, can have a significant impact on research funding even if they do not have the internal knowledge to select projects for funding.

"Partnerships are a valuable tool when it comes to solving the significant challenges facing the scientific community," Schultz said. "We believe the results of our partnership prove that it is possible for a broad range of interests to come together to create new and exciting ways to address these challenges."

Boettcher Investigators

CLASS OF 2014

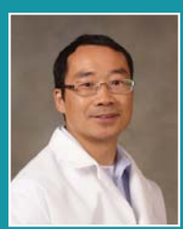
Roger Bannister, PhD
University of Colorado, Anschutz Medical Campus

Subhajyoti De, PhD
University of Colorado, Anschutz Medical Campus

Amy Dounay, PhD
Colorado College

Christopher Gentile, PhD
Colorado State University

Loren Hough, PhD
University of Colorado, Boulder



Kunhua Song, PhD
University of Colorado, Anschutz Medical Campus

Rachel Zemans, MD
National Jewish Health

BRIDGING THE GAP

FROM DISCOVERY TO COMMERCIAL SUCCESS

WRITTEN BY JEANNE McADARA-BERKOWITZ, PhD

The big idea, the novel finding, the unanticipated breakthrough: these are the hoped-for payoffs of public and private investment in bioscience research. In the next decade, discoveries made in laboratories across Colorado promise to bring us new ways to outsmart cancer, improve the ease and safety of surgical procedures, regenerate damaged eye tissue, replace the function of missing limbs, and diagnose and guide treatment decisions for a host of complex heath conditions.

Scientists and engineers, however, are not typically trained in entrepreneurship, and once the health implications and potential commercial value of a discovery have been appreciated, inventors may find themselves asking, "What now?" Fortunately, Colorado boasts a robust network of industry groups, foundations, government-sponsored programs, serial entrepreneurs, investors and service providers that, together, make up a vibrant and supportive ecosystem to foster the translation of research from the bench to commercialization.

Strengthening the ecosystem – education, networks and advocacy

An essential first resource for early-stage companies and their founders is the Colorado BioScience Association (CBSA). According to President and CEO April Giles, the association's annual, two-day BioBoot Camp gives would-be entrepreneurs a comprehensive overview of the path through research and development, raising capital, setting up a company, regulatory compliance, clinical trials and commercialization.

"We help them evaluate the fundamental question, 'Do I really want to start a bioscience company?'" says Giles. "We walk them through the immediate challenges they will have to tackle as well as the longer-term questions they'll face as they grow."

CBSA and its subsidiary, the Colorado BioScience Institute, foster a host of formal and informal networking opportunities, continuing education and industry advocacy to support growing companies.

"Our programs and content are aimed at helping companies connect with the resources in our state that they will need as they navigate the path to commercialization," says Giles. "We show them that they don't have to be their own expert in those subsets of information. There are knowledgeable and experienced folks here willing to help them with that."

At the same time, CBSA continually engages in advocacy at the local, state and national levels to encourage legislative, tax and regulatory policies that are favorable to bioscience development.

"We work with legislators to ensure we have the grant dollars, angel tax credits, business tax incentives, zoning and building codes, and other policies in place to make Colorado an attractive place to grow a company or invest in bioscience innovation," she says.

Closing early-stage funding gaps

Obtaining adequate funding is a perennial challenge for bioscience companies in the long years before commercialization.

"One problem is that over the last 10 years, we've seen a nationwide shift in investment strategies in bioscience," says Ginny Orndorff, executive director of the **Colorado Institute for Drug, Device and Diagnostic Development (CID4)**. "Venture capitalists and larger pharmaceutical or device companies used to pay for development of early-stage university or company technologies under research contracts or seed investments. Those investments have moved downstream, and university inventors and entrepreneurs with a good idea are finding they need to demonstrate commercial milestones before they can interest corporate partners or raise significant venture capital."

At the earliest stages, grants from **Colorado's Office of Economic Development and International Trade (OEDIT)** have helped supply needed funds to help startups demonstrate the commercial feasibility of their technology. For carefully selected companies graduating out of these programs, CID4 has been able to provide investments and mentoring, as well as assistance in obtaining additional grant funding, to help bridge the remaining funding gap until they can attract angel investment, venture capitalists or strategic partners.

> "We walk them through the immediate challenges they will have to tackle as well as the longer-term questions they'll face as they grow."
> – APRIL GILES, CEO, CBSA

Orndorff points out that the efforts of CID4 and similar groups help Colorado recapture the downstream benefits from federal research dollars coming into the state. "The government spends more than $600 million annually to support academic life-sciences research in Colorado," says Orndorff. "If the discoveries coming out of that research stay in Colorado, that benefits our state's citizens and the economy."

Dr. Dennis Roop, left, is developing a cell-based therapy for Adam Klatter, right, who has a genetic condition called Epidermolytic Ichthyosis. Dr. Roop has corrected Adam's disease in vitro and will use the Gates Biomanufacturing Facility to expand Adam's healthy cells for future transplantation.

Commercialization infrastructure

Another key factor in the success of early-stage bioscience companies is access to resources for engineering design, process development, clinical-grade manufacturing, regulatory affairs and quality systems. Providing these capabilities in-house can be out of reach for many startups.

"Here in Colorado we are fortunate to have an infrastructure rich in design, process and contract manufacturing expertise to support commercialization in all bioscience sectors, including medical device, biotechnology and diagnostics," says Giles. She cites contract pharmaceutical manufacturing and discovery organizations such as **KBI Biopharma**, **CordenPharma** and **Array Biopharma** in Boulder, as well as medical device manufacturing operations such as **CEA Medical Manufacturing** (Colorado Springs), **Mountainside Medical** (Louisville) and **Evergreen Research** (Golden).

One of the newest additions to Colorado's biotechnology commercialization infrastructure is the new, 14,000-square-foot **Gates Biomanufacturing Facility**, part of the Gates Center for Regenerative Medicine at the University Of Colorado Anschutz Medical Campus. The Center's capabilities will be dedicated to helping investigators and early-stage ventures develop and manufacture clinical-grade biologic products and cell therapies for use in clinical trials.

"We have been fortunate to partner with the University of Colorado, Anschutz Medical Campus, the University of Colorado Medical School, Children's Hospital Colorado, the University of Colorado hospital system, the Gates Frontiers Fund, and funders from the private sector to help develop this academic GMP facility," says Dennis Roop, PhD, Director of the Gates Stem Cell Center.

Roop says that the Gates Center will operate as a cost-neutral core facility and, after a phased rollout, will provide services to academic, non-profit and for-profit clients.

"With a facility like this, the University is in a better position to recruit outstanding young scientists who are committed to getting their technologies into the clinic," says Tim Gardner, the Center's Director of Finance. "Our hospitals will be able to offer the latest, most cutting-edge clinical trials to their patients. And all of that will help keep those breakthroughs here in Colorado as they wind through the clinical development stage and into commercialization. We think this Center provides a critical enabling capacity that will help to create an outstanding bioscience manufacturing center in this region."

Fueling acceleration

Even mid-size companies that have survived the gauntlet of early funding and product development challenges face new hurdles as they begin building out and scaling up their commercial enterprises. The **Blackstone Entrepreneurs Network (BEN)** of Colorado, based in Boulder, was founded in 2014 to assist promising young companies through this stage of their growth.

According to Executive Director J.B. Holston, BEN is a non-profit corporate foundation that was initially funded through a gift from the Blackstone Charitable Foundation to the Silicon Flatirons Initiative at the University of Colorado School of Law.

"Our goal is to connect serially successful entrepreneurs from various industry silos in Colorado, and to leverage that collaborative network to spur the State's most promising private companies, or gazelles, to become breakout winners," says Holston.

Holston says that BEN's gazelles come not only from the health science industry, but also from other promising segments including energy, aerospace, natural products and technology. Regardless of focus, they share characteristics that, given the right resources and guidance, could enable them to rapidly scale up to very large economic profiles and outcomes.

"We provide connections, mentorship, introductions to capital sources, and other resources necessary to ensure that these gazelles accelerate in Colorado," says Holston.

Asked why such a resource is needed here, Holston points out that Colorado is rich in startup culture, but that there is currently not enough focus on overcoming the challenges that come as companies begin to scale up. He says that bio-science companies at this stage are particularly vulnerable to being acquired by out-of-state interests, and taking their technology and jobs with them when they leave.

> Holston predicts that the tight-knit, even altruistic business culture in Colorado will be integral to the next decade's success stories.

"If we can help more companies win here and stay here, there will be a lot of dividends," he says. Holston envisions a virtuous cycle of new growth from corporate spin-offs, reinvestment from local entrepreneurs who have achieved success, and a growing pool of experienced management talent. "Capital investments may increase as investors looking for big returns see that they can invest here in Colorado and not have to exit so soon."

Holston predicts that the tight-knit, even altruistic business culture in Colorado will be integral to the next decade's success stories.

"Colorado is so collaborative," he says. "It's not as trans-actional as other areas. People here want to make this ecosystem work and care about shared work in an agile, fleet, 'pay-it-forward' kind of way.'"

Holston says that culture is a big draw. "It's part of why people come here. They want to start something up and get plugged in without having to break down those barriers based on who you are and who you know."

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Incubators Help Bioscience Companies Develop and Commercialize INNOVATIONS

WRITTEN BY KIM JACKSON

Bioscience is big business.

The Biotechnology Industry Organization (BIO) reported last June that in 2012 (the most recent year reported), US bioscience companies provided 1.62 million jobs nationwide across 73,000 individual businesses—and supported an additional 6.24 million indirect jobs throughout the rest of the economy.

Colorado's bioscience industry that same year provided 28,510 jobs, and in the last five years, venture capital investments in Colorado bioscience companies totaled $1.1 billion.

That's good news for Colorado. Thanks to our strong collaboration between infrastructure—including universities, non-profit organizations and commercial incubators—and the entrepreneurs and founders who want to commercialize their innovations, Colorado is popping up more often on the national radar as a hot bioscience cluster.

From Colorado Springs to Fort Collins, Aurora to Boulder, several resources and incentives in the state help entrepreneurs refine bioscience innovations, then develop and grow their businesses.

> "We want to work together so we can make discoveries relevant to society and bring companies closer to our community."

Fast-track startups get Silicon Valley guidance in Colorado Springs

The Colorado Springs Technology Incubator mentors fast-track startups, and offers guidance on everything from managing business and product development to finding investors.

CEO Ric Denton has found that what young companies need most is working out their go-to-market strategies. A Silicon Valley biotech entrepreneur with university teaching experience, Denton explained that the added value of the non-profit organization is in its mentors. "We have people with deep backgrounds as entrepreneurs."

The 22,000-square-foot facility houses office space for startups that meet the incubator's criteria: A viable business model for potentially scalable companies with strong management teams (or the potential to build them out) with an opportunity for future high growth.

Last year, the incubator partnered with the Air Force Academy to help in technology transfer activities that directly link to the Academy's $64 million research program. This partnership supports new business in the region and Colorado.

Bioscience companies percolate in Fitzsimons' incubator

In Aurora, the 578-acre Fitzsimons Innovation Campus (FIC) has been incubating bioscience startups since 1998.

The Biotechnology Industry Organization reported last June that in 2012:

U.S. bioscience companies provided:

1.62 MILLION **JOBS** across 73,000 **BUSINESSES**

Of that, Colorado bioscience companies provided:

28,510 **JOBS** and had $1.1 BILLION **IN VC INVESTMENTS** (in the last five years)

Originally housed in the original Army hospital on the campus, the FIC has grown to three buildings of its own, each with its own purpose—all just across the street from the University of Colorado Anschutz Medical Campus with the clinical expertise and hospital systems to partner on research and development while also providing access to a large patient population for clinical trials.

The Bioscience Park Center and Bioscience East boast 85,000 square feet of incubator space for both early-stage and established bioscience companies. They currently house 48 companies and include ample lab and executive office space, and shared services. The Bioscience Park Center also houses 30,000 square feet of build-to-suit accelerator space for growing, more mature companies.

The 112,000-square-foot Bioscience 2 Building opened in April with the University of Colorado's innovative bioengineering program located on the first floor and the top

The Research Innovation Center (RIC) on Colorado State University's campus.

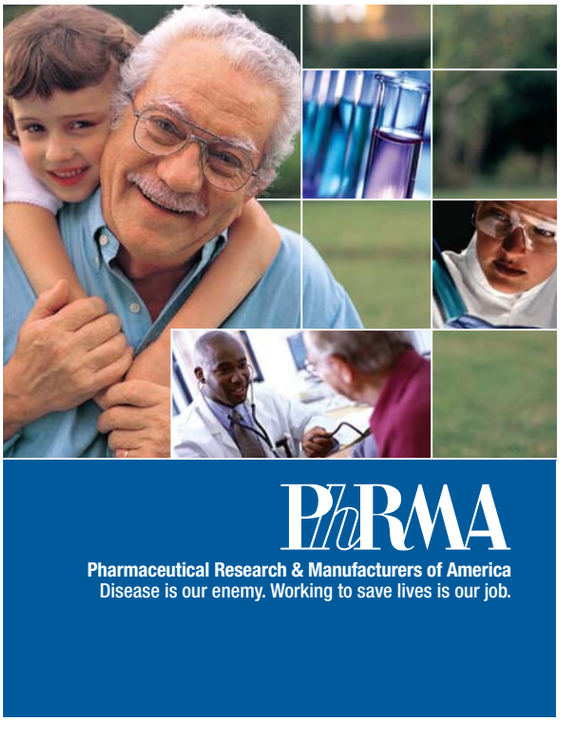
two floors built to house growing bioscience companies. "This new building offers students the chance to rub shoulders with commercial entities," states Vicki Jenings, director of business relations for Fitzsimons Redevelopment Authority. "We constantly look for collaboration opportunities to bring university people together with commercial people."

In Boulder, academic departments co-locate for meaningful collaboration

The University of Colorado BioFrontiers Institute in Boulder co-locates faculty members from 10 academic departments with students and companies through technology transfer, industrial partnerships, internships and mentoring in the Jennie Smoly Caruthers Biotechnology Building on the university's east campus.

Inside the 300,000-square-foot building, faculty members collaborate with industry to see their discoveries become relevant. Students gain real-world experience and the chance to work with companies as they expand. And young companies use flexible lab space, core facilities, a stimulating research environment and an educated workforce.

Demand for space in the building has outpaced supply. Yet many small companies use the core facilities' services, equipment and expertise on a fee-for-service basis. Facilities are also available for more interactive collaboration.



The building itself, where everyone must pass through a main corridor to get from one place to another, is designed to encourage hallway conversations. Hallway whiteboards encourage spontaneous idea sessions and every week, a company or academic lab hosts a "cookie hour" for anyone in the building.

"We're interested in seeing bioscience grow in Colorado," observed Jana Watson-Capps, associate director of the BioFrontiers Institute, "and we're coming from an academic position. We want to work together so we can make discoveries relevant to society and bring companies closer to our community."

Research Innovation Center fosters life science R&D in Fort Collins

Located in Colorado State University's Judson Harper Research Complex in Fort Collins, the Research Innovation Center (RIC) serves as a vehicle to perform collaborative translational-stage research with the campus' life sciences community.

The Judson Harper Research Complex also includes the Infectious Disease Research Center, Rocky Mountain Regional Biocontainment Lab, Arthropod-borne and Infectious Diseases Laboratory, the Centers for Disease Control and the USDA-APHIS Wildlife Research Center.

The RIC serves as a life science accelerator by helping startup and established companies. With academic faculty on the first floor and the incubator housing 10 companies on the top floor of the building, companies are embedded in a strong academic environment, with access to many subject matter experts.

Additionally, companies on and off campus have access to fully equipped, flexible BSL-2 labs and BSL-3 facilities, while incubated companies also have access to CSU's state-of-the-art vivarium and laboratory animal services.

Fort Collins-based Innosphere helps startups raise capital

A partner to the Research Innovation Center in Fort Collins, the Innosphere is a nonprofit incubator that was formed to accelerate the success of high-impact scientific and technology companies, and to promote the development of a regional entrepreneurial ecosystem in Colorado.

Headquartered in a 30,000-square-foot innovation center in Fort Collins, Innosphere also has satellite locations to better serve entrepreneurs. These locations include Colorado State University, INDUSTRY Denver and the Colorado Center for Renewable Energy Economic Development in Golden (which is co-located with the National Renewable Energy Laboratory).

Its incubation program currently helps 39 entrepreneurial startups—including 11 bioscience companies—raise

capital, assemble solid management teams, develop partners, and connect with academic and governmental institutions and develop a network of advisors.

Stride district will help innovators in healthcare industry

Based in downtown Denver, Stride expects to be a world-class health technology campus. When complete later this year, the campus will be dedicated to enabling healthcare innovation by focusing on digital health, wearable tech, "smart" device and enterprise platforms.

The unique innovation district will be home to cornerstone Fortune 500 tenants, several mid-sized users, emerging businesses, an incubator, venture capital, and an innovation and 3D printing/idea lab.

Bioscience is indeed big business. And thanks to the rich resources available in Colorado, entrepreneurs and fast-growing companies are getting the help they need to develop, finance and commercialize their innovations.

Kim Jackson is a consultant for Green Tape LLC (greentapellc.com), which helps organizations win government R&D funding, then administers awards so the small R&D firm can stay focused on its innovations.

Innosphere offers companies access to a broad network of state-of-the-art facilities, including a 30,000-square-foot innovation center of office and wet lab space at the Fort Collins headquarters.

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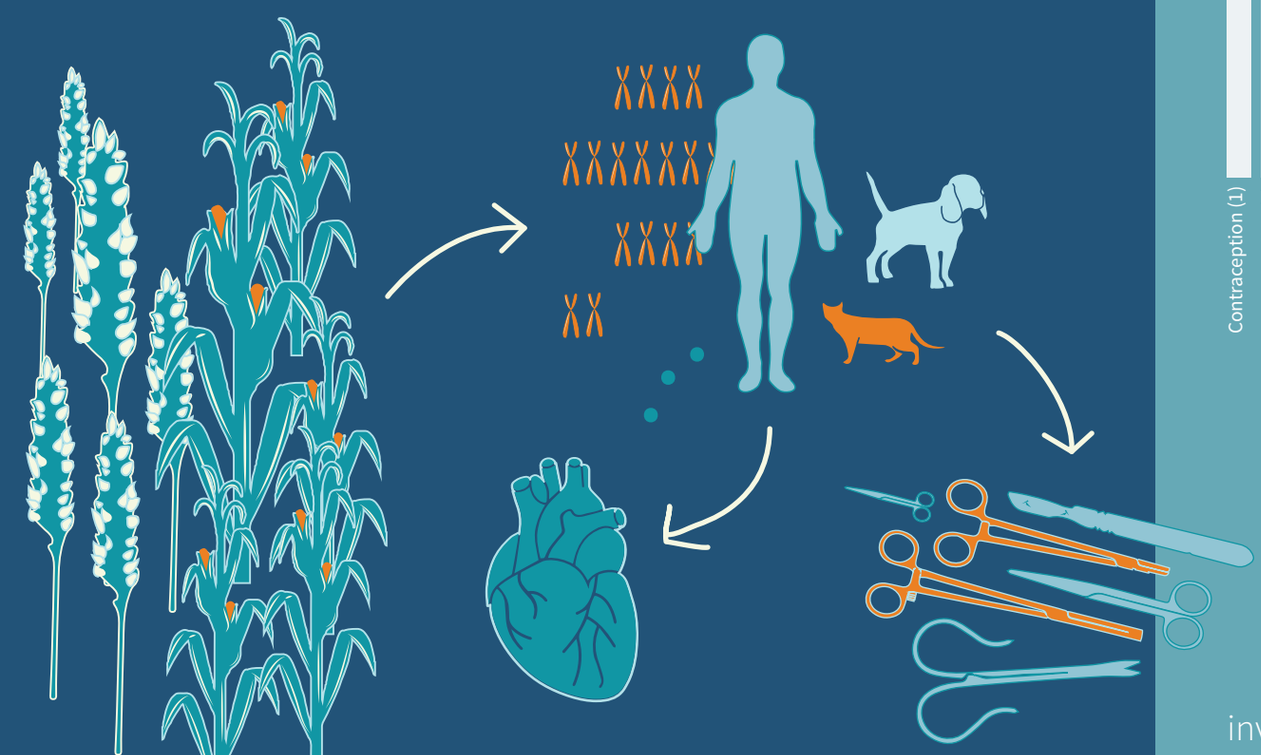
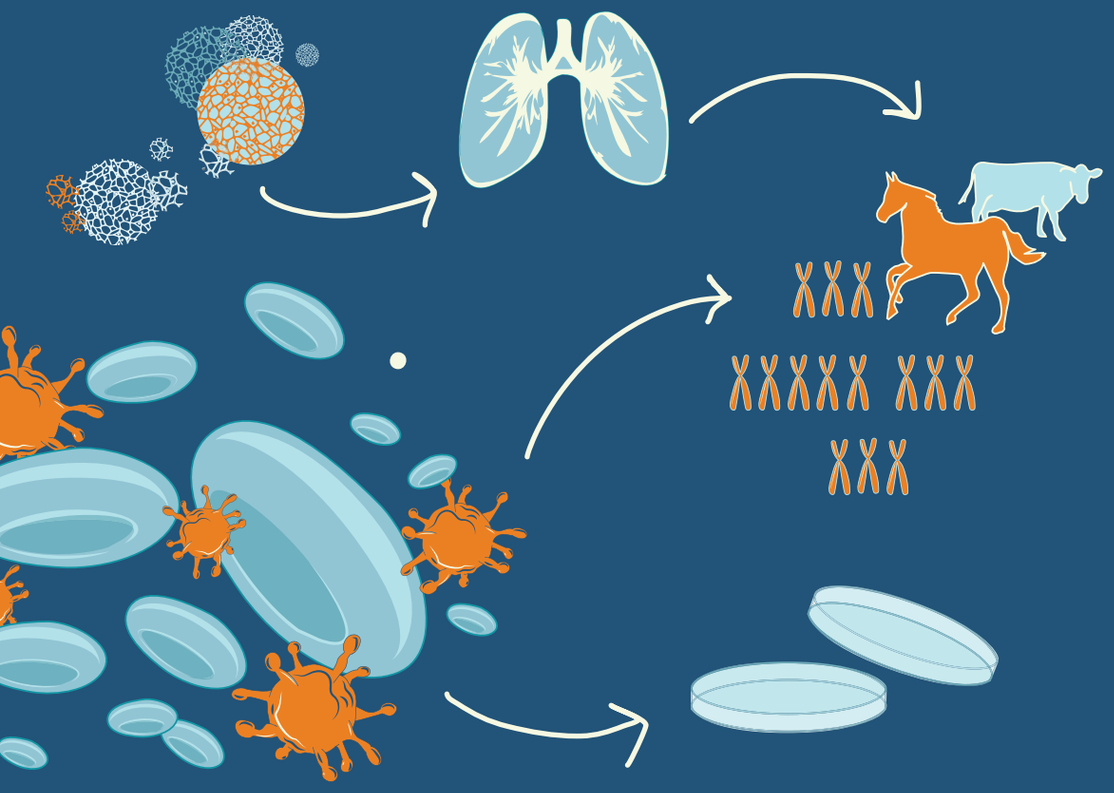


INTER CONNECTED

Drugs, devices and therapies in Colorado

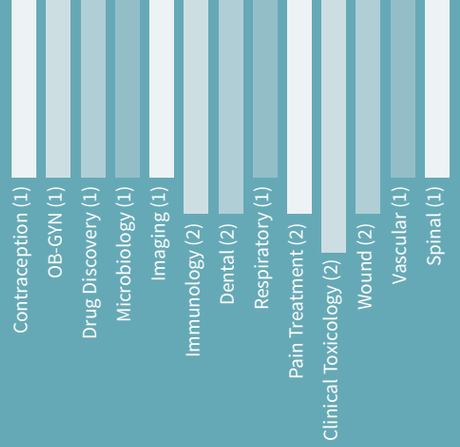


MED TECH

investigational and approved

By medical specialty

190 TOTAL DEVICES



STUDIES

performed by CO HQ companies

- Studies Completed (121)
- Studies In Progress (35)
- Studies Recruiting (90)

268 TOTAL* STUDIES

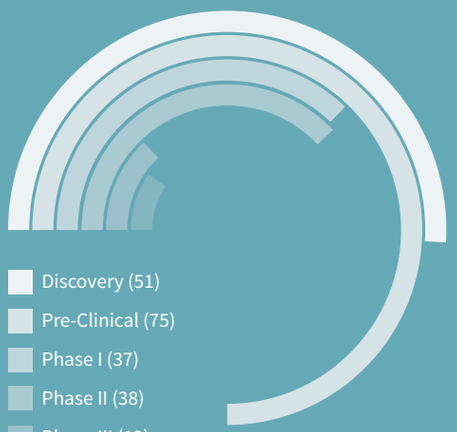
By medical specialty:

- Cancer (73)
- Cardiovascular (28)
- Central Nervous System (41)
- Dermatology (1)
- Eye and Ear (6)
- Gastrointestinal (16)
- Genitourinary (73)
- HIV Infections (73)
- Hematology (73)
- Hormonal Systems (73)
- Immune System (73)
- Infectious Diseases (73)
- Musculoskeletal (73)
- Nephrology (73)
- Pain (73)
- Respiratory (73)

*Total amounts are not the sum of studies broken down by therapeutic, as some studies may be listed under one or more therapeutic area.

DRUGS

from CO HQ companies



- Discovery (51)
- Pre-Clinical (75)
- Phase I (37)
- Phase II (38)
- Phase III (12)
- Approved (10)

223 TOTAL DRUGS

By medical specialty:

- Cancer (76)
- Cardiovascular (20)
- Central Nervous System (9)
- Dermatology (1)
- Diagnostic/Imaging Agents/Delivery (8)
- Eye and Ear (1)
- Gastrointestinal (1)
- Genitourinary (0)
- HIV Infections (3)
- Hematology (7)
- Hormonal Systems (14)
- Immune System (23)
- Infectious Diseases (34)
- Musculoskeletal (13)
- Pain (4)
- Respiratory (9)

MED DEVICE

investigational and approved

223 TOTAL INVESTIGATIONAL

630 TOTAL APPROVED

Top five companies ranked in order of the most **investigational devices**

Spectranetics Corp.	**18**	Colorado Springs
Corgenix Medical Corp.	**14**	Broomfield
nSpire Health	**13**	Longmont
Baxa Corp *(Now Baxter)*	**12**	Englewood
Allosource	**9**	Centennial

Top six companies ranked in order of the most **approved devices**

Spectranetics Corp.	**138**	Colorado Springs
ValleyLab	**104**	Boulder
Fischer Medical Tech.	**73**	Broomfield
Unipath, LLC	**73**	Denver
Lanx, Inc.	**36**	Broomfield
Terumo BCT	**35**	Lakewood

TOTAL FILINGS

- 510k (3)
- PMA (11)

Information provided by BioPharm Insight

COLORADO BY THE NUMBERS

2014 FINANCINGS

Company	Public Ticker	Close Date	City	$USD M	Type of Event/Round	Investor/Partner	Industry Type
2B Technologies, Inc.		5/16/14	Boulder	0.15	Grant Funding	NIH	Diagnostics
Acess Sensor Technologies, Inc.		6/30/14	Fort Collins	0.15	Grant Funding	NIH	Diagnostics
Advanced RNA Technologies, LLC		8/19/14	Boulder	0.72	Grant Funding	NIH	Pharmaceutical
Advanced RNA Technologies, LLC		9/8/14	Boulder	0.19	Grant Funding	NIH	Pharmaceutical
Ampio Pharmaceuticals, Inc.	AMPE	3/5/14	Englewood	68.0	IPOs/Offerings		Pharmaceutical
Ampio Pharmaceuticals, Inc.	AMPE	2/27/14	Englewood	55.0	IPOs/Offerings		Pharmaceutical
Ampio Pharmaceuticals, Inc.	AMPE	2/24/14	Englewood	Undisclosed	IPOs/Offerings		Pharmaceutical
Ampio Pharmaceuticals, Inc.	AMPE	12/13/13	Englewood	Undisclosed	Alliances	Vyrix Pharmaceuticals	Pharmaceutical
ARCA Biopharma, Inc.	ABIO	2/4/14	Westminster	9.0	IPOs/Offerings		Pharmaceutical
ARCA Biopharma, Inc.	ABIO	2/3/14	Westminster	Undisclosed	IPOs/Offerings		Pharmaceutical
Biodesix, Inc.		4/10/14	Broomfield	Undisclosed	Alliances	AVEO Oncology	Diagnostics
Biodesix, Inc.		1/13/14	Broomfield	6.1	Venture Financing/Series E		Diagnostics
Biodesix, Inc.		1/10/14	Broomfield	20.0	Financing Agreements	Capital Royalty Partners LP	Diagnostics
Boulder Biotechnology, Inc.		2/27/14	Boulder	1.0	Grant Funding	NIH	Biotechnology
Boulder Biotechnology, Inc.		4/22/14	Boulder	0.73	Grant Funding	NIH	Biotechnology
Clovis Oncology Inc	CLVS	9/9/14	Boulder	37.5	IPOs/Offerings		Biotechnology
Clovis Oncology Inc	CLVS	9/3/14	Boulder	250.0	Stock Offering		Biotechnology
Clovis Oncology Inc	CLVS	9/3/14	Boulder	200.0	Stock Offering		Biotechnology
Clovis Oncology Inc	CLVS	4/3/14	Boulder	Undisclosed	Alliances	Foundation Medicine	Biotechnology
Colorado Photopolymer Solutions, LLC		8/11/14	Boulder	0.15	Grant Funding	NIH	Pharmaceutical
Corgenix Medical Corporation	CONX	6/5/14	Broomfield	0.99	Grant Funding	NIH	Medical Device
Corgenix Medical Corporation	CONX	6/26/14	Broomfield	2.9	Grant Funding	NIH	Diagnostics
Corgenix Medical Corporation	CONX	12/24/14	Broomfield	0.82	Grant Funding	Bill & Melinda Gates Foundation and Paul G. Allen Family Foundation	Diagnostics
Crestone, Inc.		7/3/14	Boulder	1.0	Grant Funding	NIH	Biotechnology
Crestone, Inc.		7/25/14	Boulder	0.15	Grant Funding	NIH	Biotechnology
dBMEDx		9/10/14	Littleton	0.0075	Award	CBSA	Medical Device
Fluonic, Inc.		9/18/14	Boulder	0.15	Grant Funding	NIH	Medical Device
GlobeImmune, Inc.	GBIM	7/28/14	Louisville	1.0	Grant Funding	NIH	Biotechnology
Globeimmune, Inc.		7/8/14	Louisville	17.25	IPOs/Offerings		Biotechnology
Globeimmune, Inc.		7/1/14	Louisville	15.0	IPOs/Offerings		Biotechnology
Globeimmune, Inc.		4/29/14	Louisville	Undisclosed	IPOs/Offerings		Biotechnology
InDevR, Inc.		4/30/14	Boulder	0.3	Grant Funding	NIH	Diagnostics
InDevR, Inc.		7/22/14	Boulder	0.96	Grant Funding	NIH	Diagnostics
InDevR, Inc.		9/15/14	Boulder	14.7	Contract	HHS/BARDA	Diagnostics
Invisible Hand Enterprises, Inc.		7/18/14	Westminster	0.47	Grant Funding	NIH	Medical Device
Kestrel Labs, Inc.		4/11/14	Boulder	0.65	Grant Funding	NIH	Medical Device

2014 FINANCINGS *continued*

Company	Public Ticker	Close Date	City	$USD M	Type of Event/Round	Investor/Partner	Industry Type
Lohocla Research Corporation		6/25/14	Aurora	0.16	Grant Funding	NIH	Biotechnology
MBC Research, Inc.		9/16/14	Aurora	0.1	Grant Funding	NIH	Pharmaceutical
MBio Diagnostics, Inc.		7/2/14	Boulder	0.7	Grant Funding	NIH	Diagnostics
MBio Diagnostics, Inc.		7/2/14	Boulder	0.99	Grant Funding	NIH	Diagnostics
Meadowlark Optics, Inc.		9/4/14	Frederick	0.27	Grant Funding	NIH	Photonics
MenoGeniX, Inc.		7/30/14	Aurora	Undisclosed	Private Financing		Biotech/Pharma
Miragen Therapeutics, Inc.		6/26/14	Boulder	7.0	Financing Agreements	Servier	Biotechnology
MusclePharm Corp.	MSLP	9/17/14	Denver	8.0	Financing Agreements	ANB Bank	Pharmaceutical
MusclePharm Corp.	MSLP	5/13/14	Denver	Undisclosed	Financing Agreements		Pharmaceutical
MusclePharm Corp.	MSLP	1/6/14	Denver	Undisclosed	Mergers and Acquisitions	BioZone Pharmaceuticals, Inc	Pharmaceutical
Nivalis Therapeutics, Inc.		11/19/14	Boulder	30.0	Venture Financing	Wellington Management; RA Capital Management, LLC; Jennison Associates LLC; Rock Springs Capital Management LP; Sabby Management LLC	Pharmaceutical
Nivalis Therapeutics, Inc.		11/12/14	Boulder	Undisclosed	Corporate Event		Pharmaceutical
Omni Bio Pharmaceutical, Inc.	OMBP	4/29/14	Fort Collins	Undisclosed	Alliances	Gallus BioPharmaceuticals, LLC	Pharmaceutical
Omni Bio Pharmaceutical, Inc.	OMBP	4/24/14	Fort Collins	3.0	Financing Agreements	Bohemian Investments LLC	Pharmaceutical
Op-t-mune, Inc.OP		6/11/14	Denver	0.21	Grant Funding	NIH	Diagnostics
QuSpin, Inc.		1/13/14	Louisville	0.76	Grant Funding	NIH	Diagnostics
QuSpin, Inc.		8/22/14	Louisville	0.5	Grant Funding	NIH	Diagnostics
QuSpin, Inc.		12/19/14	Louisville	0.73	Grant Funding	NIH	Diagnostics
Sapphire Technologies		10/7/14	Denver	0.2	Grant Funding	CID4	Dental
Sharklet Technologies, Inc.		7/11/14	Aurora	0.68	Grant Funding	NIH	Medical Device
Sharklet Technologies, Inc.		9/5/14	Aurora	0.025	Grant Funding	NIH	Medical Device
Sharklet Technologies, Inc.		9/18/14	Aurora	0.22	Grant Funding	NIH	Medical Device
Siva Therapeutics		3/18/14	Boulder	Undisclosed	Alliances	SomaLogic, Inc.	Medical Device
Siva Therapeutics		1/23/14	Boulder	Undisclosed	Alliances	Plexxikon Inc.	Medical Device
SmartMove, Inc.		4/25/14	Fort Collins	0.007	Grant Funding	NIH	Medical Device
SomaLogic, Inc.		10/20/14	Boulder	Undisclosed	Research Agreement	Novartis	Diagnostics
Taiga Biotechnologies, Inc.		9/5/14	Aurora	0.19	Grant Funding	NIH	Biotechnology
Taiga Biotechnologies, Inc.		9/12/14	Aurora	0.18	Grant Funding	NIH	Biotechnology
TDA Research, Inc.		7/30/14	Wheat Ridge	0.18	Grant Funding	NIH	Chemical
TDA Research, Inc.		9/12/14	Wheat Ridge	0.15	Grant Funding	NIH	Diagnostics
Ventria Bioscience		4/3/14	Fort Collins	0.26	Grant Funding	NIH	Biotechnology
Ventria Bioscience		12/24/14	Fort Collins	0.31	Grant Funding	NIH	Biotechnology

2013 FINANCINGS

Company	Public Ticker	Close Date	City	$ USD M	Type of Event/Round	Investor/Partner	Industry Type
AktiVax, Inc.		2/25/13	Aurora	0.2	Venture Financing	CID4	Medical Device
Aktiv-Dry, LLC		6/1/13	Boulder	0.4	Grant Funding	NIH	Biotech
Ampio Pharmaceuticals, Inc.	AMPE	9/26/13	Greenwood Village	25.0	Stock Offering		Pharmaceutical
Arca Biopharma Inc	ABIO	5/30/13	Broomfield	20.0	Stock Offering		Pharmaceutical
Array BioPharma Inc.	ARRY	7/29/13	Boulder	Undisclosed	Alliances	Global Blood Thera-peutics	Biotech
BaroFold, Inc		6/1/13	Aurora	0.1	Grant Funding	BDEGP	Biotech
Biodesix, Inc.		4/11/13	Boulder	Undisclosed	Alliances	Bruker Daltonics	Diagnostics
Biodesix, Inc.		4/12/13	Boulder	8.8	Stock Offering/ Series D		Diagnostics
Biodesix, Inc.		12/2/13	Boulder	8.3	Preferred Equity Financing/ Series E		Diagnostics
BiOptix Diagnostics Inc.		3/14/13	Boulder	5.0	Venture Financing	Boulder Ventures Ltd.	Diagnostics
Bolder Biotechnology, Inc.		3/8/13	Boulder	1.0	Grant Funding	NIH	Biotech
Bolder Biotechnology, Inc.		5/15/13	Boulder	0.5	Grant Funding	NIH	Biotech
Corgenix Medical Corporation	CONX	5/22/13	Broomfield	Undisclosed	Alliances	Eli Lilly	Diagnostics
Corgenix Medical Corporation	CONX	7/11/13	Broomfield	Undisclosed	Alliances	EDP Biotech	Diagnostics
Corgenix Medical Corporation	CONX	9/4/13	Broomfield	1.5	Financing Agreements	Bank of the West	Diagnostics/Therapeutics
Corgenix Medical Corporation	CONX	10/28/13	Broomfield	Undisclosed	Alliances	Health Diagnostic Laboratory, Inc. (	Diagnostics
Corgenix Medical Corporation	CONX	11/18/13	Broomfield	Undisclosed	Alliances	Zalgen Labs	Diagnostics
Crestone, Inc		7/1/13	Aurora	1.0	Grant Funding	NIH	Biotech
dbMEDx		12/20/13	Littleton	0.2	Grant Funding	AI	Medical Device
dBMEDx™, Inc.		4/4/13	Littleton	1.1	Stock Offering		Medical Device
Entero Track		6/1/13	Centennial	0.3	Grant Funding	BDEGP	Diagnostics/Therapeutics
FitBionic		8/8/13	Boulder	2.2	Venture Financing	High Country Venture	Medical Device
Flashback		1/30/13	Boulder	0.8	Angel	Angel investment group	Medical Device Software
Flashback		3/26/13	Boulder	0.1	Grant Funding	STTR Ph III	Medical Device Software
Globeimmune, Inc.		9/4/13	Louisville	4.0	Grant Funding	NIH	Biotech
Globeimmune, Inc.		10/31/13	Louisville	60.0	Stock Offering		Biotech
InDevr, Inc.		2/1/13	Boulder	1.0	Grant Funding	NIH	Diagnostics/Therapeutics
Lanx, Inc.		5/13/13	Broomfield	15.0	Venture Financing/ Series C	Credit Suisse Asset Management	Medical Device
Lohocla Research Corporation		7/15/13	Aurora	0.2	Grant Funding	NIH	Biotech
MBC Research Inc		6/1/13	Aurora	0.2	Grant Funding	NIH	Biotech
MBC Research Inc		9/26/13	Aurora	0.8	Grant Funding	NIH	Biotech
MBio Diagnostics, Inc.		3/1/13	Boulder	0.8	Grant Funding	NIH	Diagnostics/Therapeutics
MBio Diagnostics, Inc.		4/24/13	Boulder	Undisclosed	Alliances	Foundation for Innovative New Diagnostics (FIND)	Diagnostics/Therapeutics
MBio Diagnostics, Inc.		7/8/13	Boulder	0.7	Grant Funding	NIH	Diagnostics/Therapeutics
MBio Diagnostics, Inc.		8/2/13	Boulder	0.9	Grant Funding	NIH	Diagnostics/Therapeutics
Membrane Protective Technologies Inc. (MPTI)		12/20/13	Fort Collins	0.1	Grant Funding	AI	Biotech
Microbiome Therapeutics		12/16/13	Broomfield	1.3	Financing Agreements		Biotech
nSpire Health		3/21/13	Longmont	Undisclosed	Alliances	4sigma GmbH	Diagnostics
OptiEnz Sensors, LLC		9/10/13	Fort Collins	Undisclosed	Grant Funding	NSF SBIR	Diagnostics
Quspin		9/24/13	Westminster	0.6	Grant Funding	NIH	Medical Device
Shape Ophthalmics, LLC		6/17/13	Denver	Undisclosed	Alliances	OASIS Medical Inc.	Medical Device
Sharklet Technologies, Inc.		7/18/13	Aurora	0.2	Grant Funding	NIH	Medical Device
Sharklet Technologies, Inc.		9/17/13	Aurora	1.1	Grant Funding	NIH	Medical Device
SixOne Solutions		6/1/13	Aurora	0.1	Grant Funding	BDEGP	Biotech
SixOne Solutions		7/17/13	Aurora	0.3	Grant Funding	NIH	Biotech
SmartMove		5/24/13	Fort Collins	0.4	Grant Funding	NIH	Biotech
SmartMove		6/1/13	Fort Collins	0.2	Grant Funding	BDEGP	Biotech
Somalogic Inc		8/12/13	Boulder	Undisclosed	Alliances	Agilent Technologies Inc.	Diagnostics
Somalogic Inc		8/21/13	Boulder	10.0	Venture Financing		Medical Device
Surefire Medical		9/23/13	Westminster	16.4	Venture Financing		Medical Device
Surefire Medical		11/7/13	Westminster	18.2	Venture Financing	Partisan Management Group	Medical Device
SuviCa, Inc.		9/12/13	Boulder	0.2	Grant Funding	NIH	Biotech
Tissue Fusion		6/1/13	Colorado Springs	0.1	Grant Funding	BDEGP	Medical Device
Ventria Bioscience		2/15/13	Fort Collins	0.2	Grant Funding	NIH	Biotech
Ventria Bioscience		6/1/13	Fort Collins	0.8	Grant Funding	NIH	Biotech
Ventria Bioscience		9/20/13	Fort Collins	0.2	Grant Funding	NIH	Biotech
VetDC, Inc		12/20/13	Fort Collins	0.2	Grant Funding	AI	Biotech
VetDC, Inc		5/1/13	Fort Collins	1.3	Venture Financing	Angel Investors	Biotech
VetDC, Inc		11/1/13	Fort Collins	1.1	Venture Financing	Angel Investors	Biotech
ViroCyt, LLC		1/15/13	Denver	Undisclosed	Venture Financing	High Country Venture	Diagnostics/Therapeutics
Xalud Therapeutics, Inc.		2/8/13	Boulder	0.7	Grant Funding	SBIR	Biotech
Xalud Therapeutics, Inc.		6/1/13	Boulder	0.2	Grant Funding	BDEGP	Biotech
Zynex Medical Holdings	ZYNX	7/22/13	Lone Tree	Undisclosed	Alliances	Advanced Brain Monitoring	Medical Device

2013-2014 ACQUISITIONS

2013 ACQUISITIONS OF COLORADO COMPANIES

Company	Public Ticker	Close Date	City	$USD M	Company	Location	Industry Type
Sound Surgical Technologies LLC.		1/29/13	Louisville	35.5	Solta Medical, Inc.	Hayward, CA	Medical Device
Inviragen, Inc.		5/8/13	Fort Collins	35.0	Takeda America Holdings, Inc.	Japan	Biotech
Lanx, Inc.		8/7/13	Broomfield		Biomet, Inc.	Warsaw, IN	Medical Device

2013 COLORADO COMPANY ACQUISITIONS

Company	Public Ticker	Close Date	City	$USD M	Company	Location	Industry Type
DaVita, Inc.	DVA	1/7/13	Denver		Fresenius Medical Care	Portugal/Poland	Medical Device
Spectranetics Corporation	SPNC	1/7/13	Colorado Springs	5.5 + milestone pymts	Upstream Peripheral Technologies, Ltd.	Israel	Medical Device
Terumo BCT		3/20/13	Lakewood		Medservice	Poland	Medical Device
DaVita, Inc.	DVA	5/21/13	Denver	4.42 B	HealthCare Partners LLC	Torrance, CA	Medical Device
Terumo BCT		11/4/13	Lakewood		GADA	Turkey	Medical Device
Clovis Oncology Inc	CLVS	11/19/13	Boulder	196.0	EOS S.p.A.		Biotech

2014 ACQUISITIONS OF COLORADO COMPANIES

Company	Public Ticker	Close Date	City	$USD M	Company	Location	Industry Type
Corgenix Medical Corporation	CONX	8/28/14	Broomfield	16.0	Orgentec Diagnostika	Germany	Diagnostics
Covidien	COV	1/27/15	Boulder	42.9	Medtronic	Minneapolis, MN	Medical Device
MusclePharm Corp.	MSLP	1/6/14	Denver	Undisclosed	BioZone Pharmaceuticals, Inc	Richmond, CA	Pharmaceutical
Novus Biologicals		7/2/14	Littleton	60.0	Bio-Techne Corporation	Minneapolis, MN	Biotechnology
TriZetto		9/15/14	Englewood	2.7 B	Cognizant	Teaneck, NJ	Health IT

2014 COLORADO COMPANY ACQUISITIONS

Company	Public Ticker	Close Date	City	$USD M	Company	Location	Industry Type
Spectranetics Corporation	SPNC	6/30/14	Colorado Springs	230.0	AngioScore, Inc.	Fremont, CA	Medical Device

2013-2014 NEW COMPANIES

Company	City	Industry Type
Access Sensor Technologies	Fort Collins	Diagnostics
EnteroTrack	Denver	Diagnostics
Galaxy Ophthalmics	Aurora	Medical Device
Green Sun Medical	Fort Collins	Medical Device
Growcentia	Fort Collins	Agricultural Biotech
MicroChemica, LLC	Fort Collins	Agricultural
Mile High Ophthalmics	Aurora	Medical Device
Ocugen	Aurora	Biotechnology
Ocugen	Aurora	Biotechnology
OcuTherix	Aurora	Medical Device
Recreo Pharma	Aurora	Pharmaceutical
Sapien LLC	Fort Collins	Medical Device
yuScience LLC	Aurora	Biotechnology

Company	City	Industry Type
Gates Biomanufacturing Facility	Aurora	Biotech
Leo Technologies	Boulder	Diagnostics
Membrane Protective Technologies Inc. (MPTI)	Fort Collins	Biotech
MycoTechnology	Aurora	Biotech
Ocugen	Aurora	Biotech
Precision Biopsy	Aurora	Diagnostics
RX Assurance	Boulder	Digital Health
SixOne Solutions	Aurora	Biotech
Tissue Fusion	Colorado Springs	Medical Device
Verkko Biomedical	Aurora	Biomaterials
Z Biotech	Aurora	Biotech

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GRANT PROGRAMS:

INNOVATION ENGINES

Over the past eight years, Colorado has developed comprehensive grant programs to build the state's bioscience ecosystem.

Initially, the Bioscience Discovery Evaluation Grant Program (BDEGP) was created in statute in 2006, to support the development of novel technologies and advance commercialization. The state saw the success of the BDEGP as a catalyst to create the Advanced Industries (AI) Accelerator Programs through legislation in 2013, to align with seven advanced industries – aerospace, technology, engineering, energy, electronics, manufacturing, and bioscience. The economic impact of these industries account for nearly 30 percent of the state's wage earnings, nearly 30 percent of the total sales revenues across all industries within the state and nearly 35 percent of the state's total exports.

The AI Accelerator Program offers three grant types – Proof of Concept, Early-Stage Capital and Retention, as well as Infrastructure. Additionally, the Advanced Industries Export Grant Program supports small and medium-sized business in the advanced industries and offsets international business development and related marketing costs.

> The program has created **46 new companies**, **426 direct jobs** and **$469.1 million** in additional investment, therefore leveraging the State's investment 12.78 times the initial amount.

For Bioscience, the BDEGP and AI Programs have provided 285 grants since 2006, totaling approximately $36.7 million. The complete economic impact of this funding has been significant. The program has created 46 new companies, 426 direct jobs and $469.1 million in additional investment, therefore leveraging the state's investment 12.78 times the initial amount.

These programs exemplify the importance of investment to promote growth and sustainability to drive innovation, accelerate commercialization and encourage public-private partnerships.

Proof of Concept Grants by Institution

Investigator: Achim E. Klug, PhD

Institution: University of Colorado

Title: Chip-Guided Neurosurgery

Impact: A device and software system that can wirelessly report, with very high accuracy, angular orientation as well as acceleration in the three cardinal axes of the object it is attached to. The device can easily be integrated into existing O.R. technology and can interface with existing software and hardware to increase the accuracy of such equipment, and ultimately improve the outcomes of many neurosurgical procedures.

Investigator: Xiao-Jing Wang, PhD

Institution: University of Colorado

Title: Developing Novel Biologics to Treat Oral Mucositis and Diabetic Wounds

Impact: Oral mucositis is one of the worst toxicities of radio- or chemo-therapy in cancer patients. Currently, there is no effective therapy to treat severe oral mucositis. Chronic skin wounds affect 6.5 million patients in the United States; treatment costs exceed $25 billion annually. Diabetic patients are particularly susceptible to impaired wound healing.

Investigator: Gregory T. Everson, MD

Institution: University of Colorado

TItle: HepQuant (HQ)-SHUNT Correlates of Hepatic Venous Pressure Gradient (HVPG) Testing

Impact: HQ-SHUNT fulfills an unmet need in drug development and clinical trials of liver disease – as a noninvasive, accurate, safe, easy-to-administer and cost-effective alternative to HVPG testing. Drug companies are investing billions of dollars in developing new anti-fibrotic drugs to treat the ~30 million Americans with liver fibrosis/cirrhosis. These efforts are hindered because the best method to quantify liver disease progression and efficacy of new drugs is HVPG, which is invasive, difficult to perform and very expensive.

Investigator: Todd J. Grazia, MD

Institution: University of Colorado

Title: Clinical Development of Autologous CD117+ Progenitor Cell (PC) Therapy for Solid Organ Transplantation

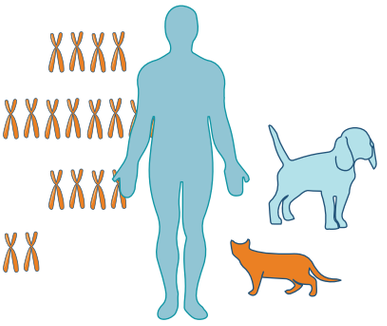
Impact: Current clinical outcomes for solid organ and other tissue/cellular transplants remain poor. New novel therapeutics to improve rates of rejection (and survival as a consequence) and decrease reliance on immune suppressants (and their severe morbidities) are a must.

Investigator: William Sauer, MD

Institution: University of Colorado

Title: A Partially Insulated Catheter for Directed and Tailored Radiofrequency Ablation

Impact: Catheter ablation of cardiac tissue with radiofrequency (RF) energy is routinely performed for the treatment of a variety of arrhythmias. All radiofrequency ablation catheters are radially symmetric at the catheter tip cylinder, thus allowing for circumferential RF. However, there is an unmet need in catheter design that allows for a more tailored approach during RF ablation in which circumferential ablation is not desired. An insulated catheter, where RF energy is concentrated to a single side, will allow for a more effective ablation at lower powers. It will also permit RF delivery deeper into tissues and is therefore useful for difficult arrhythmias arising from deep structures, such as the septum, papillary muscle and cavo-tricuspid isthmus.

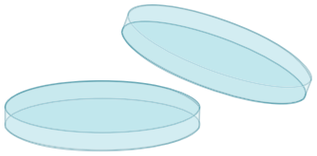


Investigator: Christopher M. Yakacki, PhD

Institution: University of Colorado

Title: Development and Biological Evaluation of Porous, Patient-Specific Interbody Fusion Cages

Impact: Current approaches to lumbar interbody fusions (LIFs) involve using devices made from traditional solid materials to restore disc height and provide stability for fusion. These designs do not evenly distribute loads across the vertebral endplates and can lead to micro-fractures and subsidence (i.e. loss of disc height). Subsidence combined with the supra-physiological stiffness values of the devices can contribute to adjacent-level disease. PPPs are a new class of aromatic polymers with strength and stiffness values higher than polyetheretherketone (PEEK), which is a standard in polymeric implantsThe investigators have developed a method to tailor the porosity of the device to match the mechanical properties across the entire vertebral endplate to better distribute forces and reduce subsidence.



Investigator: Kimberly E. Newman, PhD

Institution: University of Colorado

Title: Ultrasonic System for Activity and Fall Monitoring

Impact: The creation of electronics for remote health monitoring. As the average population age increases worldwide, automated tools to ensure quality of life become increasingly necessary and valuable. Elderly individuals who are living alone have high risk of undetected injury that reduces the ability to maintain independence while providing safety. Undetected falls are a leading cause of hospitalization.

Investigator: Kenneth N. Maclean, PhD

Institution: University of Colorado

Title: Cystathionine as Treatment for Vascular Calcification

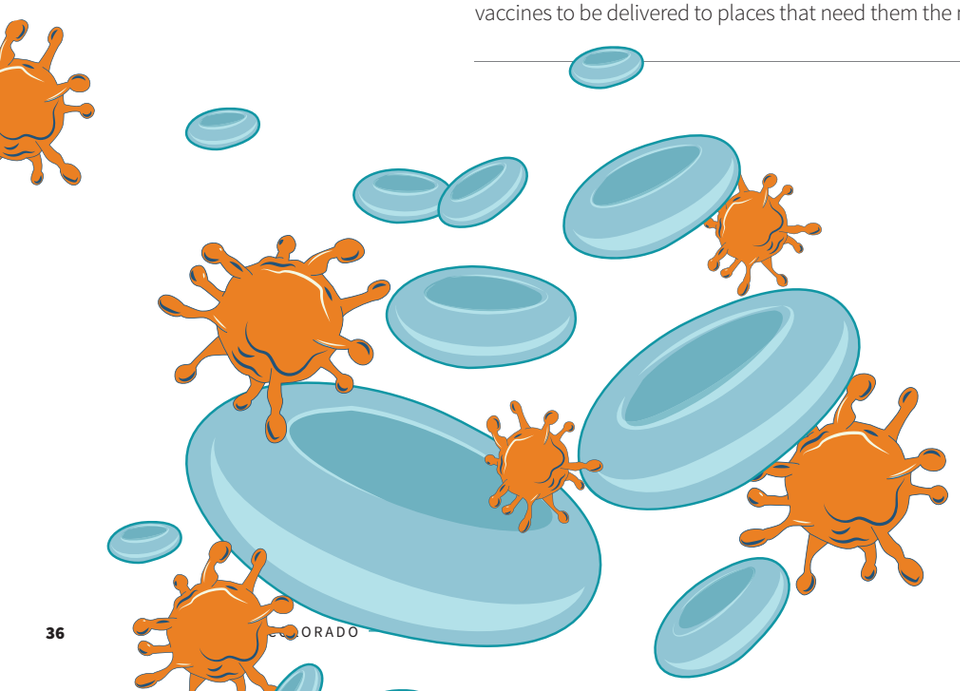
Impact: Vascular calcification is widely held to be an important contributor to cardiovascular morbidity and mortality of patients with advanced atherosclerosis linked to aging, diabetes mellitus and chronic kidney disease (CKD). Vascular calcification is associated with fragmentation and reduction of elastic fibers in the arterial wall, vascular stiffening and hence increased cardiac overload. Cystathionine (R-S-(2-Amino-2-carboxyethyl)-L-homocysteine) is a non-proteinogenic thioether containing amino acid. During the past five years, we have shown that the thioether amino acid cystathionine exerts very strong protective effects against ER stress-induced injury in the liver and kidney.

Investigator: Balaji Sridhar, PhD

Institution: University of Colorado

Title: Evaluation of Photodegradable Polymer Networks for Encapsulation and Thermal Stabilization of Temperature Sensitive Biological Components

Impact: Our solution is portable, convenient and reliable. It is designed to eliminate the difficulties associated with vaccine transportation and delivery. We are enabling vaccines to be delivered to places that need them the most.



Investigator: Yevgeniy Vinogradskiy, PhD

Institution: University of Colorado

Title: 4DCT-Ventiliation: A New Lung Function Imaging Modality for Radiation Therapy

Impact: Physicians would be able to use 4DCT-ventilation to help evaluate whether it is safe to offer radiation treatment to patients. 4DCT-ventilation images can be used to perform functional avoidance; where the radiation beams are designed and placed such that they are not directed through the functional portion of the lung. 4DCT-ventilation could be used as an imaging biomarker to assess response to therapy and help guide care.

Investigator: Jeffrey L. Olson, MD

Institution: University of Colorado

Title: Wave Mini-Shunt Device for Glaucoma Treatment

Impact: The current standard of care for treating the blinding complications of glaucoma revolves around topical medicines, laser treatments, and surgery for the most advanced cases. Surgeries have a very high failure rate in these patients who are most at risk (nearly 50 percent fail at five years), and cannot be customized to the individual patient. The Wave Mini-shunt device obviates both of these drawbacks. The device allows surgeons to post-operatively control the rate of flow through the device, allowing better, customized treatment for patients.

Investigator: Matthew Wallenstein, PhD

Institution: Colorado State University

Title: Commercialization of Advanced Soil-Based Microbial Solutions for Agriculture Management

Impact: This technology addresses the global agricultural industry problem of an ever greater need for phosphate fertilizer to get the crop yields necessary to feed the world and, hopefully, lessen the groundwater and aquatic pollution problems cause by phosphorus runoff.

Investigator: Yan Vivian Li, PhD and Meghan E. Suter, PhD

Institution: Colorado State University

Title: Smart Wound Dressings for the Detection and Colormetric Indication of Bacterial Infection

Impact: Bacterial infections in wound dressings are difficult to monitor even with frequent re-dressing of wounds. This research proposes to create a “smart textile” bandage that displays a change in color when pathogenic bacteria is present. These bandages will be made from a nanofiber matrix that has detection molecules within embedded vesicles.

Investigator: Randy Bartels, PhD

Institution: Colorado State University

Title: Construction of a Whole Brain Optical Imager Product Prototype

Impact: The proposed technology could allow – for the first time – imaging of epi (back-collected) fluorescent and absorption imaging from biological specimens at an unprecedented speed and volume (up to 1 cm^3). This technology will initially be designed for scientific institutions engaged in neural imaging but will have clinical applications as well.

Investigator: Dean A. Hendrickson, DVM

Institution: Colorado State University

Title: Development of a Computer Assisted Physical Examination/Palpation Model for Medical Training

Impact: This technology will allow medical and veterinary personnel to be trained to accurately identify abdominal organs while providing immediate feedback to the user and trainer.

Investigator: Matthew Wallenstein, PhD

Institution: Colorado State University

Title: Prototype Formulation and Field Testing of Microbial Biostimulants for Greener Lawns

Impact: This technology details a method of identifying and selecting populations of soil microbes that are capable of increasing the availability of phosphorus in soil. These "consortia" of microbes modify the phosphorus in the soil that is unavailable for plant uptake in its unmodified form. This microbial modification could be used in formulations by the Turf industry for greener lawns.

Investigator: Erwin Gelfand, MD, and Greg Miknis, PhD

Institution: National Jewish Health

Title: Small Molecule Inhibitors of Pim1 Kinase for the Treatment of Allergic Disease

Impact: Our work at National Jewish has shown that PIM kinase plays a crucial role in allergic diseases. In collaboration with CSU, this project aims to develop and test novel PIM kinase inhibitors in models of allergic disease. This project could lead to the creation of drug candidates for allergic conditions.

Investigator: Vijaya Knight, MD, PhD and Bruce Lanser, MD

Institution: National Jewish Health

Title: Basophil Reactivity to Specific Food Allergens as a Superior Predictor of Oral Food Challenge Outcomes than Specific IgE Levels or the Skin Prick Test

Impact: Food allergies currently affect both children and adults in the United States and are on the increase. Our project focuses on the development of a basophil activation diagnostic assay for food allergens that would be superior to the currently available IgE and skin prick test.

Investigator: Kevin Brown, MD, Jeffrey Swigris, DO and Steve Groshong MD, PhD

Institution: National Jewish Health

Title: Right Flow Oxygen Delivery System

Impact: Hypoxemic patients need supplemental oxygen to maintain a normal blood oxygen level. Our project aims to develop an oxygen delivery system that monitors blood oxygen saturation and physical activity, and in response alters supplemental oxygen flow rates to maintain a normal blood oxygen saturation at rest, with activity and sleep.

Investigator: Kent Voorhees, PhD and Chris Cox, PhD

Institution: Colorado School of Mines

Title: Rapid Point-of-Care LFCC Detection of Serum Cancer Biomarkers

Impact: The development of Lateral Flow Capillary Concentration (LFCC) showed success in phage-based bacterial detection, identification and antibiotic resistance determination with a quantifiable surface enhanced spectroscopy across a large number of analyte types. This project will establish LFCC detection of serum cancer biomarkers for prostate and breast cancers.

Investigator: Steve Boyes, PhD

Institution: Colorado School of Mines

Title: Polymer Modified Nanoparticles as Contrast Agents for the Non-invasive Measurement of pH in vivo

Impact: The extracellular pH (pHe) in cancer tumors is important in producing more aggressive cancer phenotypes and causing metathesis. A pHe responsive agent for MRI and CT that improves the selectivity and sensitivity of pHe measurements has been developed which could lead to better and quicker monitoring, and treatment adjustments.

Investigator: Hongjun Liang, PhD

Institution: Colorado School of Mines

Title: Virus-Mimicking Polymer Molecular Brushes as a Novel Family of Highly Potent Antimicrobial Agents

Impact: This project will optimize antimicrobial activity by tuning the nanoscale architectures of synthetic mimics of antimicrobial peptides. The goals are: (1) design and synthesize polymer molecular brushes with well-defined characteristics; (2) determine the structure-dependent antimicrobial potency and selectivity of polymer molecular brushes against two model bacteria and their interaction with human red blood cells.

Early-Stage Capital and Retention Grants 2014 - 2015

Early-Stage grants provide needed funding to companies commercializing technologies by backing research, testing and business development activities that will prepare them for additional third-party financing.

Bioscience Discovery Evaluation Grant Program (BDEGP)

KromaTiD
www.kromatid.com
KromaTiD's patented dGH™ chromosome imaging platform enables detection of all types of chromosomal rearrangements including previously undetectable cryptic inversions.

Mighty Oak Medical
www.mightyoakmedical.com
Mighty Oak's FIREFLY Technology is a series of patient matched pedicle screw trajectory guides that help create pilot and tapped holes specific to a particular patient's vertebrae.

Siva Therapeutics
www.sivatherapeutics.com
Siva Therapeutics Inc. (Siva) is focused on the discovery, development and commercialization of nanotechnology therapies that improve cancer treatment options for patients and physicians.

CoramiR
CoramiR is developing tests for pediatric heart failure patients. Based on microRNA biomarkers found in circulating blood, these tests will help physicians to non-invasively risk-stratify potential transplant candidates.

Biomimetix
www.omnibiopharma.com
Biomimetix is focused on the development of a novel metalloporphyrin antioxidant mimetic for topical treatment of inflammatory dermatologic diseases (psoriasis and atopic dermatitis)

Galaxy Ophthalmics
www.galaxy-eyes.com
Galaxy Ophthalmics is developing technologies related to new therapies for Glaucoma, Wet and Dry Macular Degeneration and Diabetic Retinopathy.

Double Helix
www.doublehelixoptics.com
Double Helix develops and commercializes computational optical-digital technologies used in range estimation, super-resolution microscopy and 3D imaging.

Snoasis
www.snoasismedical.com
Snoasis is focused on the development and commercialization of human placental tissue products for perioplastic surgery.

Advanced Industry Accelerator Grant Program (AI)

MBio Diagnostics, Inc.
www.mbiodx.com
MBio Diagnostics is dedicated to improving patient outcomes by enabling comprehensive diagnostics at the point-of-care (POC) from a single patient sample.

Prima-Temp, Inc.
www.prima-temp.com
Prima-Temp's continuous temperature sensors and associated software allow for the measurement of true core body temperature, with the potential to address a multitude of applications, including fertility, early disease detection, sleep disorders, drug therapy, weight control and exercise.

Lifeloc
www.lifeloc.com
Lifeloc Technologies, Inc. is a provider of precise, reliable and easy-to-use portable breath alcohol testing instruments (breathalyzers).

Commercialization Infrastructure Grants

Commercialization Infrastructure grants support joint efforts of industry and academia to create resources that are essential for industry growth. BDEGP Commercialization Infrastructure funds have funded four organizations over a number of years. Grantees identify and manage technologies, and support collaboration to bring necessary expertise together to advance novel Colorado biotechnologies to commercialization.

BIOSCIENCE DISCOVERY EVALUATION GRANT PROGRAM (BDEGP)

The Colorado Center for Drug Discovery (C2D2)

www.c2d2.org

Based at Colorado State University, C2D2 is a resource to faculty at all Colorado research universities, bringing biology and chemistry faculty together to use chemical libraries, computational resources, bioinformatics, cheminformatics, database support, virtual high throughput screening, and Computer Aided Drug Design to pharmacologically validate drug candidates with patent-protected chemical matter and innovative therapeutics for unmet medical needs.

The Colorado Institute for Drug, Device and Diagnostic Development (CID4)

www.cid4.com

CID4's mission is to efficiently transform emerging life science technologies into commercial successes. We do this by employing an experienced Technical and Business Advisory Committee to identify potential opportunities and assist in formulating development strategies combined with an advanced leadership team to ensure speed to market, putting new products and services to work where they are needed.

The BioFrontiers Institute

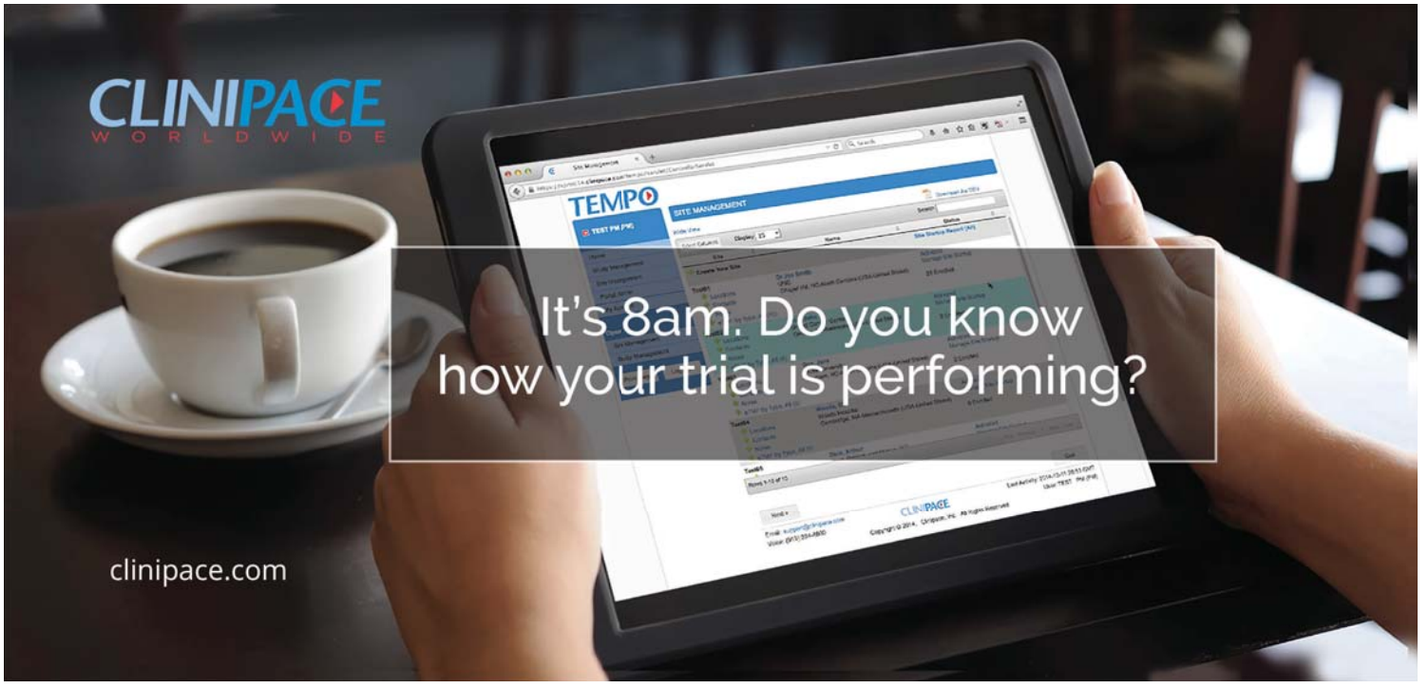
www.biofrontiers.colorado.edu

A state-of-the art research and education facility that links the basic sciences, engineering, clinical practice and industry at the University of Colorado's Boulder campus to support breakthrough developments in areas such as engineering human tissues, RNA enzyme and aptamer based pharmaceutical, biorefining and genetics. Grant funds support equipment, resources and personnel costs to develop the core facilities of the Institute.

The University of Colorado, Skaggs School of Pharmacy at Anschutz

www.ucdenver.edu/pharmacy

Developed an HTS/HCS (high throughput/content screening) Core Facility for drug discovery. This resource has been utilized by more than 100 researchers and companies advancing the science and helping to secure intellectual property.



DIRECTORY

41-50 Medical Device, Diagnostic and Related Companies

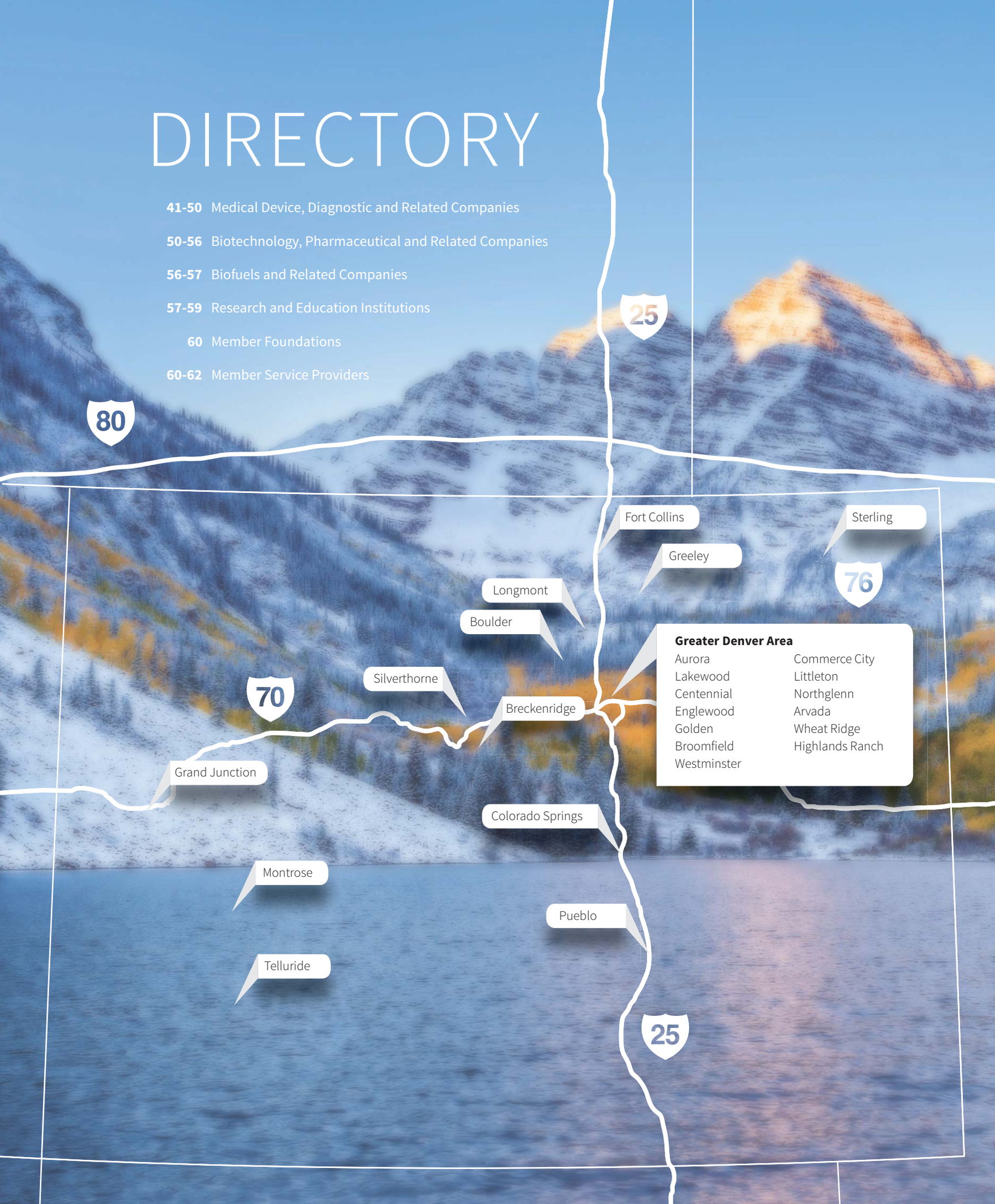
50-56 Biotechnology, Pharmaceutical and Related Companies

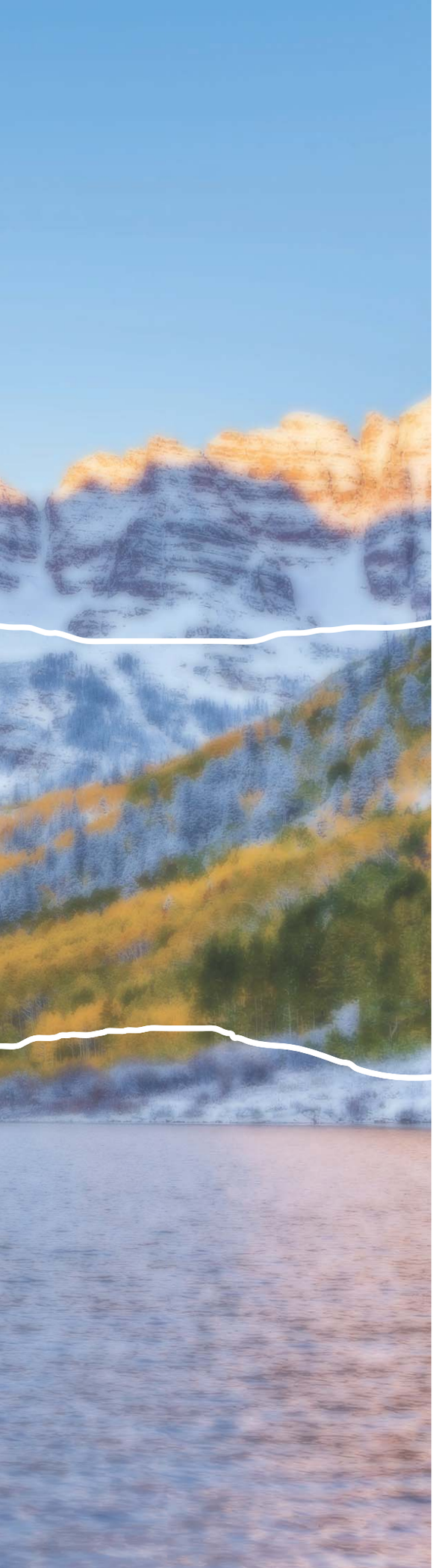
56-57 Biofuels and Related Companies

57-59 Research and Education Institutions

60 Member Foundations

60-62 Member Service Providers





MED TECH COMPANIES

2C Technologies
Denver
www.2ctechcorp.com
Development, validation, and commercialization of "SeeQ" intraocular implant as a next generation in vivo system for stimulating degenerated retinal cells and restoring vision.

Abilities Unlimited
Colorado Springs, Denver
www.auiop.com
Provides artificial limbs and custom orthopedic appliances.

Able Planet
Wheat Ridge
www.ableplanet.com
Developing an extensive line of audio and communications products that are usable by people with all levels of hearing, and provide a means whereby users can listen at lower volumes without compromising full rich sound.

AbleLink Technologies
Colorado Springs
www.ablelinktech.com
Addresses the need for well-researched cognitive support technologies for individuals with intellectual disabilities.

Access Sensor Technologies
Fort Collins
Paper-based diagnostics for industrial and personal environmental monitoring.

Accu-Tube Corporation
Englewood
www.accutube.com
Manufactures standard and custom size stainless steel hypodermic medical tubing.

C **Acertara Acoustic Laboratories, LLC**
Longmont
www.acertaralabs.com
Independent ISO/IEC accredited medical ultrasound acoustic measurement and testing laboratory.

Actium Biosystems
Boulder
www.actiumbio.com
Developing new technology to treat cancer through the use of nanoparticles to weaken and destroy cancer cells.

Advanced MicroLabs, LLC
Fort Collins
www.advancedmicrolabs.com
Researches and develops chemical analytical instruments in "Lab-on-a-chip" format.

Advanced Research Instruments Corporation
Golden
www.aricorp.com
Produces preamplifiers for PMTs and electron multipliers, high-voltage power supplies, counters and timers, precision-rate meters, and image analyzers for scanning electron microscopes.

Aesthetic Technologies
Golden
www.parisianpeel.com
Manufactures and sells Parisian Peel® brand microdermabrasion systems and accessories along with skin care products to medical and spa professionals.

Aestis, Inc.
Boulder
www.altitudetraining.com/aux/about/aestis
Develops a treatment for obesity through controlled hypoxia technology. The two principal components are the air separation unit and proprietary control system.

Agilent Technologies
Colorado Springs
www.agilent.com
Provides core electronic and bio-analytical measurement tools to advance life science research.

AktiVax
Boulder, Aurora
www.aktivax.com
Developing novel reconstitution, safety syringes for vaccines and biologics.

C **Allison Medical**
Littleton
www.allisonmedical.com
Develops a variety of disposable products that serve the healthcare needs of retail/pharmacy, acute, alternate, and home care markets.

C **AlloSource**
Centennial
www.allosource.org
Develops, processes and distributes life-enhancing bone and tissue allografts to the medical community.

AllPro
Broomfield
www.allprodental.com
Produces a large selection of non-latex prophy cups, prophy angles and other dental products.

Alpha Mold West
Broomfield
www.alphamoldwest.com
Plastic injection mold-making facility for the medical industry.

Angioslide, Inc
Wheat Ridge
www.angioslide.com
Privately held medical device company that developed a unique Embolic Capture Angioplasty solution, PROTEUS™, which provides a combination of PTA balloon and embolic capture.

Animark, Inc.
Aurora
www.animark.us
Manufactures and sells ultrasound pregnancy detectors and ovulation predictors for livestock breeding.

C Apdyne Medical Company
Denver
www.apdyne.com
Manufactures and distributes the Apdyne Phenol Applicator Kit used to anesthetize the tympanic membrane during in-office myringotomy procedures.

Aqueous Biomedical
Colorado Springs
www.aqueousbio.com
Develops biocompatible materials and geometric designs that can be applied to stents, shunts, artificial organs and drug-delivery devices. Its first product, the Oculieve™ shunt, is designed to control over-pressurization inside the eye caused by glaucoma.

C ArcScan, Inc.
Morrison
www.arcscan.com
Early stage med device startup developing VHF Ultrasound for comprehensive ophthalmic imaging.

Arcturus Star Products LLP
Cortez
www.lymphstarpro.com
Pioneering Vibrational Energy Therapy for the wellness and beauty professions. Vibrational energies incorporate subtle low frequencies of light, sound and electrical waves. Its therapeutic specialty is in the area of lymphatic health.

ASI Medical, Inc.
Centennial
www.asimedical.net
Developer of specialized mobile and integrated dental carts as well as unique dental instruments for the modern dental office.

C Aspire Biotech, Inc.
Colorado Springs
www.aspirebiotech.com
Provides contract services for all phases of product development from concept to launch, and produces its own skin sealant and wound-closure adhesives.

Auri-Stim Medical
Denver
www.net1device.com
Offers an alternative therapy for migraine headaches, hormonal migraine, chronic headaches, premenstrual syndrome (PMS), nicotine and narcotics addictions using the NET-1000 device.

Avantes
Broomfield
www.avantes.com
Produces, develops and sells spectrometers, light sources, fiber optic multiplexer, fiber optic cables, software, fiber optics and accessories to the medical device industry.

C Baby Genes Inc.
Golden
www.babygenes.net
Genomics services company using Next-Generation Sequencing assays to deliver more advanced newborn screening.

Bal Seal Engineering, Inc.
Colorado Springs
www.balseal.com
Produces seals and canted-coil springs for sealing, holding, latching and electrical contact in a variety of applications throughout the medical market.

Baxter Healthcare Corporation
Englewood
www.baxter.com
Baxter International, through its subsidiaries, develops, manufactures and markets products that save and sustain the lives of people with hemophilia, immune disorders, infectious diseases, kidney disease, trauma and other chronic and acute medical conditions.

Beckman Coulter
Fort Collins
www.beckmancoulter.com
Develops and produces instruments for the diagnostic industry. Specializes in the fields of immunocytochemistry, flow cytometry and microbiology.

Bell Dental Products, LLC
Englewood
www.belldental.com
Designs, develops and manufactures precision dental equipment based on electric motor technology.

BiO2 Medical, Inc
Golden
www.bio2medical.com
Medical device manufacturer founded to design, develop and subsequently manufacture a range of medical products in response to clinical needs.

BioCare Systems, Inc.
Parker
www.biocaresystems.com
Designs, develops and markets patent-protected, FDA cleared, new health-care devices (LumiWave™) that use deep-tissue light therapy to decrease pain, accelerate healing and improve quality of life.

C Biodesix, Inc.
Aurora, Boulder
www.biodesix.com
Molecular diagnostics company advancing the revolution in personalized medicine by providing physicians timely and clinically useful information.

BioFusionary Corporation
Wheat Ridge
www.biofusionary.com
Designs and develops medical devices and biomaterials that shape, tighten and seal tissues.

C BiOptix
Boulder
www.bioptixinc.com
Offers a new, patented approach to label-free analysis, called Surface Plasmon Enhanced interferometry (SPE).

Biotricity Medical Inc.
Aurora
www.biotricitymedical.com
Research and manufacturing company specializing in developing long-term power requirements for implanted devices based on bioelectric generation.

BioVision Technologies, Inc.
Golden
www.biovisiontech.com
Develops and manufactures micro-visualization solutions that enable endoluminal and minimally invasive medical procedures in both human and veterinary medicine. The imaging technologies and customized micro-endoscope solutions are integrated to reduce incision size and speed healing.

C BodySync, Inc.
Aurora
www.bodysync.com
Applies evidence-based genetic information to develop personalized products that help individuals achieve their health goals.

Boulder Innovation Group, Inc.
Boulder
www.boulderinnovators.com
Develops and manufactures image-guided surgical navigation digitizers and industrial 3D capture and modeling equipment.

Broadwest Corporation
Boulder
www.broadwest.com
Develops and manufactures ergonomic mammography viewing equipment.

C. R. Bard, Inc./ Medivance
Louisville
www.medivance.com
Leading multinational developer, manufacturer and marketer of innovative, life-enhancing medical technologies in the fields of vascular, urology, oncology and surgical specialty products.

Canberra Industries
Arvada
www.canberra.com
Manufactures and supplies analytical instruments, systems and services for radiation detection and radiation monitoring.

Care Electronics, Inc.
Broomfield
www.medicalshoponline.com
Offers a range of electronic monitoring and alarm equipment for the home-health and long-term care markets.

Car-May LLC
Berthoud
www.car-may.com
Unlike basic metering pumps, Car-May's systems provide pumping capability, fluid measurement and flow control all in one compact module.

C Cascade TEK
Longmont
www.cascadetek.com
Medical device testing laboratory specializing in package testing, accelerated aging, photostability, UV, temperature/humidity, vibration and shock testing services.

C CEA Medical Manufacturing
Colorado Springs
www.ceamedicalmanufacturing.com
Provides product development, complete product assembly, packaging, manufacturing and design services to the medical industry.

C CeraPedics, Inc.
Westminster
www.cerapedics.com
Developing and commercializing novel osteobiologic products based on a proprietary small peptide technology, P-15™ on anorganic bone mineral (ABM).

C CereScan
Littleton
www.cerescanimaging.com
Specializes in state of the art functional brain imaging utilizing a proprietary process including the latest generation high resolution gamma camera, the industry's leading brain image reconstruction software, specially trained board-certified physicians and research-based knowledge to provide unparalleled diagnostic medical reports.

Chart Industries, Inc.
Denver
www.chartindustries.com
Manufacturing services to companies that want to out-source some or all of their manufacturing processes, and to companies that have capacity issues with their current manufacturing resources.

Clean Room Devices, LLC
Westminster
www.cleanroomdevices.com
Manufactures products that are engineered specifically for "clean room" environments.

Cochlear Americas
Centennial
www.cochlearamericas.com
Global leader in implantable hearing solutions. Manufacturer of Nucleus cochlear implants and the Baha programmable bone conduction system.

Colibri Heart Valve
Broomfield
www.colibrihv.com
Researches and develops novel heart valve technologies.

Colorado Laser Technologies, Inc.
Colorado Springs
www.coloradolasermarking.com
Provides YAG laser engraving technology, as well as CO2 and YAG laser cutting services.

Colorado Precision Products, Inc.
Boulder
www.coloradoprecision.com
Provides diamond turned and polished optics/parts. Fabricator of X-ray telescope optical components. Produces and offers air bearing LVDT contact linear measurement systems, .05 microinch resolution.

Confi-Dental Products Company
Louisville
www.confi-dental.com
Manufactures a wide range of dental and healthcare products including composites, cements, creams, lotions and ointments.

CONMED Electrosurgery
Centennial
www.conmed.com
Designs and manufactures RF electrosurgical generators and accessories of the highest quality, safety and value for use in surgical procedures performed in virtually every hospital, surgery center and physician's office.

CoorsTek Medical
Golden
www.coorstek.com
Custom engineering, materials expertise, operational excellence and rapid execution. CoorsTek Medical works with product innovators and manufacturers to turn great ideas into life changing realities.

Corgenix Medical Corporation
Broomfield
www.corgenix.com
The Colorado facility is engaged in research, development, manufacture and marketing of in vitro diagnostic products for use in disease detection and prevention.

C Crosstrees Medical, Inc.
Boulder
www.crosstreesmedical.com
Privately-held company developing advanced devices and instruments for the treatment of vertebral body compression fractures (VCF) in the spine.

Darkhorse Technologies
Nederland
Commercializes a patented technology for affordable, hand-carried, battery operated instruments for on-site genetic detection using Polymerase Chain Reaction (PCR).

DataWave Technologies Corporation
Loveland
www.dwavetech.com
Manufactures a wireless and battery-free device for acquiring and transmitting data from electrodes and other biosensors to a receiver placed meters away for electrophysiology, neurophysiology and physiology related research on both humans and large animals.

C dBMEDx
Littleton
www.dbmedx.com
Developing breakthrough realtime clinical decision and patient monitoring devices using patented, non-invasive scanning technology.

Denver Optic Company
Englewood
www.eyeprosthetics.com
Specializes in the fitting and fabrication of two types of ocular prosthesis.

C DePuy Synthes, Companies of Johnson & Johnson
Monument
www.synthes.com
Develops, produces and markets instruments, implants and biomaterials for the surgical fixation, correction and regeneration of the human skeleton and its soft tissues.

Desert Glass Works
Colorado Springs
www.dgw.com
Manufactures quartzware for the medical and research industries.

Diazamed
Fort Collins
www.diazamed.com
Development of advanced materials and utilize leading technologies to create more biocompatible surfaces.

Die Cut Technologies
Northglenn
www.diecuttech.com
Offers precision material conversion, skilled assembly and manufacturing efficiencies, including cleanroom facilities.

Directed Energy Solutions
Colorado Springs
www.denergysolutions.com
Develops advanced laser and optical device solutions for medical applications.

DNTLworks Equipment Corporation
Centennial
www.dntlworks.com
Manufactures portable, mobile and self-contained dental systems.

Double Helix
Boulder
www.doublehelixoptics.com
Double Helix LLC develops and commercializes computational optical-digital technologies used in range estimation, super-resolution microscopy and 3D imaging. Double Helix's core technologies include the patented Double Helix-Point Spread Function method for 3D super-resolution imaging.

dpiX, Inc.
Colorado Springs
www.dpix.com
Produces high-resolution amorphous silicon (a-Si) sensor arrays for medical X-ray imaging.

C E.I. Medical Imaging
Loveland
www.eimedical.com
Manufacturer of highly portable and ruggedized ultrasound devices for the veterinary industry.

C EJ BioMed – A Division of Eldon James Corporation
Denver
www.EJBioMed.com
Manufactures, assembles and packages PVC Free tubing and connectors in a single cleanroom environment. Custom design and product development available. ISO 13485:2003, ISO 9001:2008, and ISO/TS 16949:2009 certified

Electronic Materials, Inc. (EMI)
Breckenridge
www.emiuv.com
Offers a complete line of EMCAST UV adhesives, epoxies, sealants, encapsulants and coatings. EMI also offers room temperature, thermal and visible light cure adhesive systems.

Ellab, Inc.
Centennial
www.ellab.com
Manufactures thermal validation solutions for food and pharmaceutical industries.

Empirical Testing Corporation
Colorado Springs
www.empiricaltesting.com
Provides medical device testing services that add value throughout the product development cycle, with a focus on spinal implant device testing.

C Empirican Group LLC
Denver
www.empirican.com
Empirican is a site management and subject enrollment system for the digital age.
We utilize our network of our affiliate investigators – primary care physicians, cardiologists and neurologists – to complete clinical trials in a rapid, ethical and high-quality manner.

Encision, Inc.
Boulder
www.encision.com
Designs and manufactures innovative surgical devices. Developed AEM® Laparoscopic Instruments to improve electrosurgery and reduce the chance for patient injury in minimally invasive surgery.

C EndoShape, Inc.
Boulder, Aurora
www.endoshape.com
Manufactures surgical and medical instruments focusing on shape memory polymer devices for endolumenal application.

es2 technologies, inc.
Englewood
www.es2technologies.com
Developing proprietary devices and contract design.

C Evergreen Research, Inc.
Golden
www.evergreenresearch.com
Offers a complete range of development services from product definition and feasibility studies through detailed design to pilot-run and low-volume production to the medical device industry.

Extreme Diagnostics
Boulder
www.extremediagnostics.com
Develops noninvasive measurement systems, including optical systems such as custom holographic and interferometric instruments. Specializes in structural health monitoring, nondestructive testing and materials processing.

Falcon Rehabilitation Products
Denver
www.falconrehab.net
Designs and builds high quality, innovative quadriplegic seating systems and accessories (Falcon Rehabilitation Products, LaBac Seating Systems, Gel Ovations).

C Firefly Medical, Inc.
Fort Collins
www.fireflymedicalinc.com
Designs and develops innovative durable medical equipment for clinical healthcare markets.

Fischer Medical Technologies, Inc.
Broomfield
www.fischermti.com
Designs, manufactures, and markets imaging systems for the screening and diagnosis of breast cancer.

FitBionic
Boulder
www.fitbionic.com
Creating groundbreaking experiences for amputees and prosthetics based on organic design.

C FlashBack Technologies
Longmont
www.flashbacktechnologies.com
Fast, non-invasive detection of acute blood loss volume and prediction of cardiovascular collapse in emergency situations.

C Fluonic
Boulder
www.fluonic.com
Develops infusion therapy systems with disposable sensors for OEM and proprietary pumping systems.

FOOTBEAT
Grand Junction
www.footbeat.com
Mobile technology to improve quality of life and athletic recovery by enhancing lower body circulation.

Futura Surgical Inc.
Wheat Ridge
www.futurasurgical.com
Development, manufacture and sales of orthopedic products.

C Galaxy Ophthalmics
Denver
www.galaxy-eyes.com
Galaxy Ophthalmics is developing technologies related to new therapies for Glaucoma, Wet and Dry Macular Degeneration and Diabetic Retinopathy.

GE Analytical Instruments
Boulder
www.geinstruments.com
Manufactures instruments used to measure total organic carbon (TOC) in water for pharmaceutical applications and medical research.

Genesee BioMedical, Inc.
Denver
www.geneseebiomedical.com
Manufactures cardiac surgery instruments and devices.

Gnathodontics, Ltd.
Lakewood
www.gnatho.com
Specializes in functional dentistry, advanced implant work, precision partial dentures, combination cases and metal-free fixed restorations.

C **Grant Dental Technology Corporation**
Colorado Springs
www.grantdentaltech.com
Dental implants and surgical/restorative tools. Designs, develops and produces the Proximer dental implant and associated surgical and restorative instruments.

Green Sun Medical
Fort Collins
Green Sun Medical develops innovative treatments to address Adolescent Idiopathic Scoliosis (AIS) through non-fusion scoliosis solutions.

C **Groesanoak Product Development, Inc.**
Frederick
www.groesanoak.com
Creates innovative proprietary new medical devices focusing on areas of injury management, neonatal care and performance monitoring.

C **Growcentia**
Fort Collins
www.growcentia.com
Growcentia makes organic soil supplements that naturally increase nutrient availability to support healthy and vigorous plants.

Hach Company
Loveland
www.hach.com
Manufactures and distributes analytical instruments and reagents used to test the quality of water and other aqueous solutions.

HEI Advanced Medical Operations
Boulder
www.heii.com
Develops and manufactures high-performance components, medical software, medical devices, and non-medical products. Produces microcircuits and subsystems for hearing and medical applications.

Hirsh Precision Products, Inc.
Boulder
www.hppi.com
Manufactures precision-machined and assembled components for the medical industry.

C **iC3D Health, LLC**
Centennial
www.ic3dhealth.com
iC3D Health provides patient education, sales and marketing software to the elective surgery market the leads to greater conversion rates.

Illumasonix LLC
Aurora
www.alliedminds.com/subsidiaries/ilumasonix
In partnership with Allied Minds, we will develop and commercialize a new non-invasive vascular disease detection procedure, which will provide near real-time assessment of detailed blood flow patterns within the cardiovascular system.

C **InDevR, Inc.**
Boulder
www.indevr.com
Develops and manufactures biomedical instruments including molecular diagnostic assays, virus measurement systems and detection technologies for micro-arrays.

Infinity Photo-Optical Company
Boulder
www.infinity-usa.com
Manufactures long-distance and continuously-focusable microscope technology, macro systems, internal-focusing devices and other lenses.

Instec, Inc.
Boulder
www.instec.com
Manufactures precision temperature controllers and microscope hot stage systems for temperature cycling, food sciences, materials characterization, forensics, polymers and liquid crystals and microbiology.

Intelligent Imaging Innovations (3i)
Denver
www.intelligent-imaging.com
Designs and builds systems around the newest automated fluorescence microscopes and the most advanced peripheral devices.

Jorgensen Laboratories, Inc.
Loveland
www.jorvet.com
Designs and manufactures instruments that are used in the animal health field, including specialty instruments, surgical suture and veterinary equipment.

Jortek Surgical, Inc.
Boulder
www.jortek.com
Develops innovative orthopedic devices with a focus on joint and tissue preservation and augmentation.

C **JustRight Surgical**
Boulder
www.justrightsurgical.com
Developing precisely designed surgical instruments that allow access to confined spaces and often delicate structures.

C **Kestrel Labs, Inc.**
Boulder
www.kestrellabs.com
Kestrel Labs combines internal research and development projects with consulting and contract development of innovative, patient-monitoring concepts and other medical technologies.

Kindara
Boulder
www.kindara.com
Devoted to giving women the tools, knowledge, and support to understand how their fertility works.

Lanx, LLC/Biomet, Inc.
Broomfield
www.lanx.com
Specializes in systems and implants for all segments of spinal surgery. Integrating leading technology, intellectual property and state-of-the-art engineering, each product is designed to simplify surgery and improve the quality of care for patients worldwide by providing surgeons with innovative spinal products.

Lenox MacLaren Surgical Instruments
Louisville
www.lenoxmaclaren.com
Manufactures precision orthopedic and neurological surgical instruments.

Leo Technologies
Boulder
www.leo-technologies.com
Our health requires a new way to monitor hydration that's both simple and accurate. Leo Technologies hydration monitor affords simple, yet powerful biometric sensing and analytics that makes consistent monitoring care-free.

Logisens Corporation
Fort Collins
www.logisens.com
Develops biosensor and software technology, enabling a significant breakthrough in real-time measurement and reduction of stress.

C **Lumed**
Denver
www.lumedscience.com
Lumed Science Inc. is a company specializing in creating medical devices that integrate and improve user vision. Our goal is to increase visibility, simplify procedures, lower costs and improve patient outcomes.

C **Luoxis**
Greenwood Village
www.luoxis.com
In-vitro diagnostics company focused on the development and global commercialization of RedoxSYS™. The first and only research platform that accurately, easily and completely provides a real-time assessment of redox balance.

Magnelab, Inc.
Longmont
www.magnelab.com
Manufactures custom magnetic components (transformers/inductors) for the medical field.

Mayer Medical Technologies, Inc.
Grand Junction
www.mayermedical.com
Mayer Medical Technologies, Inc. improves health and saves lives by innovating new products, providing seed capital to medical start-ups, and assisting medical professionals in developing their product ideas.

C **MBio Diagnostics**
Boulder
www.mbiodx.com
Develops rapid, on-the-spot clinical diagnostics and sample testing. Portable MBio multiplex analyzer and disposable cartridge enable low-cost, rapid answers in 1-20 minutes.

Medical Modeling, Inc.
Golden
www.medicalmodeling.com
Produces highly accurate 3-D physical models of human bone structure from imaging such as CT or MRI.

MedKeeper
Denver
www.medkeeper.com
Applications for hospital pharmacies. Secure, hosted applications to promote pharmacy communications, compliance and productivity.

C **Medtronic Navigation, Inc.**
Louisville
www.medtronic.com
At the forefront of surgical navigation solutions, guiding the industry to a higher standard of care for several clinical specialties, including cranial neurosurgery, functional neurosurgery, spinal, ENT, joint replacement and orthopaedic trauma surgeries.

Mesa Laboratories, Inc.
Lakewood
www.mesalabs.com
Provides dialysis meters and related supplies to dialysis clinics world wide.

Metamatrix, LLC
Boulder
www.zorbent.com
Manufacturers of ZORBENT, an absorbant, is designed to leave no residue, reducing the risk associated with slippery surfaces, and is completely safe to use and represents no health hazard.

Micro Imaging Solutions, LLC (MIS)
Denver
www.micro-imaging.us
Developed an innovative-patented technology that can be utilized in the manufacture of micro-digital CMOS cameras.

Microlife Medical Home Solutions, Inc.
Golden
www.mimhs.com
Hand-held medical devices and systemic solutions offer healthcare providers evidence-based methods for accurate assessment, diagnosis and treatment of cardiovascular and metabolic diseases.

C **Mighty Oak Medical**
Englewood
www.mightyoakmedical.com
Develops cutting-edge spinal technologies for use in spine surgery. Develops the FIREFLY technology, an affordable patient specific guide for spinal navigation.

Mikron Corporation
Aurora
www.mikron.com
Supplies transfer machining systems for complex parts, cutting tools with high-performance standards, self medication and diagnostic devices.

Mile High Ophthalmics
Aurora
www.milehighophthalmics.com
Ophthalmic device for enhanced precision in cataract surgery.

Mind Studios
Colorado Springs
www.mind-studios.com
A full-service product design and research studio housed within the University of Colorado at Colorado Springs. Offers concept generation, advanced prototyping, engineering and consumer research, human factors design and manufacturing solutions.

Montview Biomedical Design Inc (MBD Inc.)
Aurora
www.montviewbiomed.com
Designs, develops and creates engineering solutions for the biomedical industry.

MuscleSound, LLC
Denver
www.musclesound.com
Developed a process to measure muscle glycogen content real time using non-invasive ultrasound technology.

NEBA Health LLC
Boulder
www.nebahealth.com
Develops neuropsychiatric medical devices, such as Neba™ an experimental, small format EEG-based device.

C **Neuro Assessment Systems**
Littleton
www.neuroassessments.com
Provides an objective brain-based measure of neurocognitive symptoms associated with a wide range of brain health issues including concussion and Alzheimer's disease.

C **Neuromonics, Inc.**
Westminster
www.neuromonics.com
Manufacturers and distributes clinically proven devices to treat tinnitus. Products include the Oasis, Haven and Sanctuary helping tinnitus sufferers improve their quality of life.

nSpire Health, Inc.
Longmont
www.nspirehealth.com
Develops, manufactures and markets respiratory care products and services focused on cardio-pulmonary diagnostics, respiratory core lab services and disease management solutions.

OcuTherix
Aurora
www.ocutherix.com
Non-invasive glaucoma treatment device.

C **Optibrand Ltd., LLC**
Fort Collins
www.optibrand.com
Developed optical imaging system for veterinary diagnostics.

OptiEnz Sensors
Fort Collins
www.optienzsensors.com
Revolutionizing measurement capabilities for organic chemical concentration; now providing continuous, real-time, in-place sensor solutions.

C **Osypka Medtec Inc.**
Longmont
www.osypka-medtec.com
Manufactures non-invasive hemodynamic and cardiac output monitors.

Otologics, LLC
Boulder
Develops and commercializes surgically implantable alternatives to conventional "in the ear" hearing aids.

OvaCue
Aurora
www.ovacue.com
Manufactures the OvaCue family of ovulation prediction products.

Oval Window Audio
Nederland
www.ovalwindowaudio.com
Produces induction loop assistive listening systems and visual and vibrotactile technologies that help deaf and hard-of-hearing individuals.

Paré Surgical, Inc.
Centennial
www.paresurgical.com
Develops surgical instruments such as the Quik-Stitch endoscopic suturing system.

Parker Medical
Highlands Ranch
www.parkermedical.com
Provides airway management products that make intubation safer for the patient and easier for the medical professional.

PCC/Advanced Forming Technology
Longmont
www.aftmim.com
Medical device component product development and manufacturing with metal injection molding expertise.

Peak Robotics, Inc.
Colorado Springs
www.peakrobotics.com
Manufactures robots, special equipment, and turnkey automated systems.

Peddle Master, Inc.
Johnstown
www.peddlemaster.com
Designs and manufactures handicapped driving aids. The Peddel Master is totally portable and can be installed and removed in a matter of seconds.

Pernicka Corporation
Fort Collins
www.pernicka.com
Offers analytical testing that meets or exceeds the requirements of MIL-STD 750/883 method 1018 and 45662A for companies in the aerospace, basic & applied research, surface analysis, thin film deposition, laser technology and medical products industries.

C PharmaJet, Inc.
Golden
www.pharmajet.com
Develops a needle-free technology that has a low-cost, single-use, disposable polypropylene vial or cartridge, suitable for the delivery of common vaccines and standard dose injectable liquid medicines.

C Phase Three Product Development
Fort Collins
www.phasethreedev.com
Technology and product development of microfluidics-based devices and systems.

PolyNEW, Inc.
Aurora
Developed a new class of PLA bioplastics, or "ecobionanocomposites," that are nanocomposites from 100 percent renewable resources. They exhibit high heat resistance and clarity at a low cost. PolyNEW is commercializing a series of bioplastic formulations in the form of industry standard pellets that could be used in a wide variety of applications, including medical device applications.

Porta-Lung, Inc.
Lakewood
www.portalung.com
Provides non-invasive ventilator support for long-term patients who need more portability.

Precision Biopsy
Aurora
www.alliedminds.com/subsidiaries/precision-biopsy
In partnership with Allied Minds, developing technology for the accurate diagnosis of prostate cancer which uses advanced spectroscopy imaging techniques in combination with tissue biopsy.

Precision Glassblowing
Centennial
www.precisionglassblowing.com
Provides custom and OEM scientific glass for custom synthesis, pharmaceutical, environmental, petrochemical, research, commercial, government and medical laboratories.

Preferred Medical Products, Inc.
Englewood
www.preferredmedicalproducts.com
Manufactures stainless steel medical components for hypodermic needles and lancet type products.

C Prima-Temp, Inc
Boulder
www.prima-temp.com
Innovative biometric approaches to early disease detection and reproductive medicine through the application of 21st Century thermometry.

Products Group International, Inc.
Lyons
www.productsgroup.com
Researches, develops and engineers ultrasound medical and veterinary equipment.

Propel Labs, Inc.
Fort Collins
www.propel-labs.com
Designing the next generation of bio-instrumentation tools. Focused on research tools, such as single cell analyzers and cell sorters.

ProTechSure Scientific, Inc
Aurora
ProTechSure Scientific, Inc. is a company dedicated to providing scientifically validated skin protection.

Protomed, Inc.
Denver
www.protomed.net
Creates accurate anatomical models from CT scans by using the latest imaging software and laser driven technology.

Prototype Casting, Inc.
Denver
www.protcast.com
Manufactures non-ferrous prototype parts for the medical industry, specializing in RPM (Rubber Plaster Mold) casting, sand casting and rapid-investment casting.

PTA Corporation
Longmont
www.ptacorp.com
Manufactures aluminum and steel molds for projects with lifetime runs of 5,000 to 250,000 pieces for medical applications.

C Purewater Medical Inc.
Longmont
www.purewater-medical.com
Develops products and technologies that simplify the delivery of medical fluids.

Radiological Imaging Technology, Inc
Colorado Springs
www.radimage.com
Provides clinical and research physicists with a high-precision automated QA tool for advanced radiation therapies.

Rand-Scot, Inc.
Fort Collins
www.randscot.com
Designs and manufactures products for persons with disabilities, including BBD Cushions and Mattress Overlays, EasyPivot Patient Lifts, and Saratoga Exercise Products.

Rapid Prototying Corporation
Longmont
www.rapidpro.com
Offers engineering, design and other manufacturing services for the medical device industry.

Research Electro-Optics
Boulder
www.reoinc.com
Volume manufacturer of high-precision thin film coatings, optics and optomechanical assemblies for the ultraviolet through the long-wave infrared.

Rocky Mountain Instrument Company (RMI)
Lafayette
www.rmico.com
Designs and manufactures optics and coatings (ultraviolet through far infrared) for the medical industry.

Rocky Mountain Orthodontics, Inc. (RMO)
Denver
www.rmortho.com
Serves all areas of orthodontics, including pediatric orthodontic prevention, interceptive pediatric orthodontics, mixed dentition orthodontics, adult orthodontics, reconstructive dentistry orthodontics, TMJ orthodontics, surgical orthodontics and breathing/sleep problem-related orthodontics.

RxAssurance
Boulder
www.rxassurance.com
User-friendly, patient feedback system to collect, analyze and report data related to medication adherence, effectiveness, safety, satisfaction and patient continuity of care. RxAssurance blends today's technology and effective behavioral motivators to engage patients after they have received care, been prescribed medication, or been discharged from their provider, to report their experiences.

C Samson Design Associates, Inc.
Boulder
www.samsondesign.com
Provides full-service product development ranging from concept to production specifications, with many products for the medical field.

Sandhill Scientific
Highlands Ranch
www.sandhillsci.com
Designs, manufactures and distributes diagnostic products focused on gastroenterology.

Sapien LLC
Fort Collins
www.sapienllc.com
Aims to enhance the human experience by providing innovative solutions to human problems using sensory substitution, human-machine interfaces, and human-machine integration.

Sartorius TCC (formerly Denver Instrument Company)
Arvada
www.sartorius.us
Designs and manufacturers analytical balances, electrochemistry instruments, moisture analyzers, and titration controllers.

Science Care
Denver
www.sciencecare.com
Provide human tissue for medical research and education. We serve as a link between individual donors and medical researchers and educators.

Scientech, Inc.
Boulder
www.scientech-inc.com
Manufactures analytical instruments: semi-micro balances, analytical balances, semi-analytical balances, and toploading balances for the medical industry.

Sealcon
Centennial
www.sealconusa.com
Manufactures cable-management components, including liquid tight strain relief fittings, flexible conduit, M23 circular connectors and related products for the health care industry.

C Securisyn Medical
Highlands Ranch
www.securisyn.com
Dedicated to a continuous process of increasing the safety and effectiveness of our unique life-saving product, which is utilized by skilled medical practitioners to deliver the highest quality emergency and intensive care to their patients.

Shape Ophthalmics LLC
Aurora
Develops state-of-the-art devices and novel treatments for ophthalmic conditions through the application of advanced smart materials.

C Sharklet Technologies, Inc.
Aurora
www.sharklet.com
Engineers surface technologies (Sharklet™) that control the growth of dangerous bacteria.

C Shippert Medical Technologies
Centennial
www.shippertmedical.com
Manufactures and distributes medical disposable products and instruments.

Sinopsys Surgical
Boulder
www.sinopsyssurgical.com
Proprietary Lacrimal Sinus Diversion offers functional therapy for sufferers of chronic sinusitis with minimal response to current pharmaceutical and surgical options.

SI-Technology, LLC
Fort Collins
www.si-technology.co
Orthopedic medical device company currently developing new techniques and implants as part of the patent pending SI-DESIS™ Sacroiliac Joint Implant System to help assist physicians address the need for treatment, fixation and proper fusion of painful and dysfunctional sacroiliac joints (SIJ).

Siva Therapeutics Inc
Boulder
www.sivatherapeutics.com
Commercializing a proprietary therapeutic device technology, based on gold nanorods, that can be used both independently and in conjunction with existing and new cancer drugs.

C Snoasis Medical
Denver
www.snoasismedical.com
Focused on the development and commercialization of regenerative tissue and medical device products for use in dental surgery.

C Soma Access Systems
Englewood
www.somaaccesssystems.com
Focused on designing, developing, and commercializing unique, cost-effective solutions for problems arising during specific medical procedures.

C SomaLogic, Inc.
Boulder
www.somalogic.com
Uses aptamer array technology and bioinformatics capabilities to discover disease-specific biomarkers and protein signatures. Develops medical diagnostics based on these signatures.

Sonaura
Fort Collins
www.mysonaura.com
Sonaura is an electronic two-way communication system between patient and doctor, and represents a major advance in IVF treatment allowing women undergoing IVF treatment to perform their sonograms at home during the follicle stimulation cycle.

Sontec Instruments, Inc
Centennial
www.sontecinstruments.com
Provides a broad line of instruments as well as custom instrument manufacturing and in-house repair service.

C Sophono, Inc.
Boulder
www.sophono.com
Developed the world's first non-percutaneous, implantable bone anchored hearing device.

C Sorin Group
Arvada
www.sorin.com
Global medical device company and a leader in the treatment of cardiovascular diseases.

Sound Surgical Technologies, LLC/Solta Medical, Inc.
Louisville
www.vaser.com
Offers ultrasonic technologies and related techniques for aesthetic surgery.

Sparton
Frederick
www.sparton.com
Leading contract manufacturer of low to medium volume, complex products for the medical device, biotech and industrial instrumentation markets.

C Spectranetics Corporation
Colorado Springs
www.spectranetics.com
Develops, manufactures, markets and distributes single-use medical devices used in minimally invasive procedures within the cardiovascular system.

ST Cardio Technologies, LLC
Broomfield
www.stcardio.com
Designs, develops, and manufactures electronic medical devices for use in electrophysiology cardiac cath labs.

C St. Renatus, LLC
Fort Collins
www.st-renatus.com
First needle-free, dental anesthetic suitable for use in procedures involving most of the upper teeth. Uses an accurate and sophisticated method to anesthetize the upper teeth without the risk and pain of a needle.

StnDrd Infusion
Parker
www.stndrdinfusion.com
Early-stage medical device company in the drug-infusion market with a standardized pump capable of performing the product requirements currently met by syringe, cassette, and ambulatory pump configurations.

C **Strand Genomics Inc.**
Aurora
www.strandls.com
Strand Genomics is a global clinical genomics and bioinformatics company with three business verticals, including Research Software products, Biopharma services and Personalized Medicine. Strand Genomics is the U.S subsidiary of Strand Life Sciences.

C **Subwave Sensing**
Aurora
www.subwavesensing.com
The future of fracture care giving the orthopaedic hardware market an infusion of intelligence.

Sundance Diagnostics, Inc.
Boulder
www.sundancedx.com
Working to develop the world's first genetic safety tests to predict a patient's risk of antidepressant-induced suicidal thinking or behavior.

Sunrise Medical Inc.
Longmont
www.sunrisemedical.com
Provides home healthcare products, including wheelchairs, respiratory, daily living aids and speech augmentation devices.

Supreme Cable Technologies, Inc.
Denver
www.supremecable.com
Manufactures quality custom cable assemblies and wire harnesses.

C **Surefire Medical Inc.**
Westminster
www.surefiremedical.com
Developing a novel infusion system for the interventional radiology market.

SurgiReal Products
Fort Collins
www.surgireal.com
Creates and introduces innovative products and methods for use in surgical training.

C **Swan Valley Medical, Inc.**
Aurora
www.swanvalleymedical.com
Developed a line of urology instruments that allow for safer, faster and more economical treatment of common urological disorders.

Synergy Health Americas
Denver
www.synergyhealthplc.com
Offers electron beam sterilization for medical and pharmaceutical devices.

Tapeless Wound Care Products, LLC
Englewood
www.tapelesswoundcare.com
Manufactures and distributes a system of patented secondary wound dressing retention devices, offering an alternative to traditional secondary wound dressings, for both humans and animals.

Tartan Orthopedics, Ltd
Northglenn
www.tartanortho.com
Manufactures sacro lumbar belts, dorsal lumbar belts (corsets and moldable inserts), Ottenberg style elbow splints, pelvic traction belts, arm slings, cervical collars, acromio-clavicular splints and ankle supports.

TDA Research, Inc.
Wheat Ridge, Golden
www.tda.com
Provides automated catalyst testing equipment to large chemical companies and national laboratories.

Tech-X Corporation
Boulder
www.txcorp.com
Specializes in scientific and engineering software, including visualization and algorithm development.

TeraBAT
Longmont
www.terabat.com
Developing a disruptive detection platform based on terawaves technologies that will revolutionize disease diagnosis and patient care.

C **Terumo BCT**
Lakewood
www.terumobct.com
A global leader in blood component and cellular technologies, is the only company with the unique combination of apheresis collections, manual and automated whole blood processing, and pathogen reduction coupled with leading technologies in therapeutic apheresis and cell processing.

TheraTogs, Inc.
Telluride
www.theratogs.com
Produces an orthotic undergarment and strapping system that gives clients with sensorimotor impairment a new modality for improving postural alignment and stability.

C **Tissue Fusion, LLC**
Colorado Springs
www.tissuefusion.com
Laser-based medical devices to fuse biological tissue together as an alternative to sutures or staples.

Touch of Life Technologies, Inc. (ToLTech)
Aurora
www.toltech.net
Develops procedural simulators in the areas of orthopaedics, gastroenterology, rheumatology, radiology, ophthalmology and general surgical procedures.

Transtracheal Systems, Inc.
Englewood
www.tto2.com
Develops and manufactures innovative respiratory therapy products that advance medical therapy for persons requiring continuous supplemental oxygen, including the SCOOP transtracheal oxygen therapy system.

C **Transverse Medical Inc.**
Evergreen
www.transversemedical.com
Developing the POINT-GUARD ™ Embolic Protection System for cerebral and distal embolic protection during cardiovascular percutaneous interventions and surgical procedures.

TRS, Inc.
Boulder
www.trsprosthetics.com
Develops, manufactures, and markets body-powered prosthetic devices. Designs and builds technology for persons missing hands.

Ultrathera Technologies, Inc.
Colorado Springs
www.ultrathera.com
Applying advanced technologies to physiological and neurological needs. Maker of AeroStim™ and PointScribe™.

C **Value Plastics, Inc.**
Fort Collins
www.valueplastics.com
Designs and manufactures plastic tubing fittings and connectors.

C **ValveXchange, Inc.**
Greenwood Village
www.valvexchange.com
Develops a bioprosthetic heart valve with a percutaneously-exchangeable leaflet set that provides lifetime service without anti-coagulation therapy.

C **Veramarx Inc.**
Aurora
www.veramarx.com
Focus to become the leading provider of credible clinical and scientific information, reliable and accurate diagnostic tools and effective treatment options for Lyme disease.

Vista LifeSciences
Parker
www.vistalifesciences.com
Innovative healthcare technology solutions for global healthcare challenges.

WalkMed Infusion, LLC
Englewood
www.walkmed.net
Offers solutions for ambulatory infusion therapy and pain management.

Wi LLC
Englewood
www.wiinc.net
Designs and engineers medical devices. Including innovative services such as laser welding, assay design and air bubble management.

Ximedix, Inc.
Colorado Springs
www.ximedix.com
Manufactures and sells single patient use medical products for the anesthesia, respiratory care, critical care and emergency medicine applications.

Yamato Corporation
Colorado Springs
www.yamatocorp.com
Manufactures and sells weighing equipment and systems for medical facilities.

Zynex Medical, Inc.
Lone Tree
www.zynexmed.com
Offers electrotherapy products, utilizing various methods of non-invasive muscle stimulation and electromyography technology, Interferential Current (IFC) and Transcutaneous Electrical Nerve Stimulation (TENS).

BIOTECHNOLOGY, PHARMA AND RELATED COMPANIES

Accera, Inc.
Broomfield
www.accerapharma.com
Developed Axona, the first proprietary commercialized Alzheimer's disease therapy that addresses the well recognized physiological hallmark and metabolic defect of hypometabolism, the brain's inability to optimally metabolize glucose.

ADA Technologies, Inc.
Littleton
www.adatech.com
Development and commercialization of innovative technologies.

Advanced Regenerative Therapies (ART)
Fort Collins
www.art4dvm.com
Provides a stem cell isolation and expansion service for veterinary medicine.

Agilent Nucleic Acid Solutions
Boulder
www.agilent.com
Develops and manufactures therapeutic oligonucleotide.

Agripro COKER
Berthoud
www.agriprowheat.com
Develops and delivers superior wheat seed genetics in North America.

AKTIV-DRY
Boulder
www.aktiv-dry.com
Provides dry powder processing solutions for the vaccine, pharmaceutical and biotechnology industries.

Allergan, Inc.
Highlands Ranch
www.allergan.com
Multi-specialty health care company focused on discovering, developing and commercializing innovative pharmaceuticals, biologics, medical devices and over-the-counter consumer products.

American Allied Biochemical, Inc.
Aurora
www.aablabs.com
Specializes in the purification and distribution of restriction endonucleases enzymes.

C Amgen, Inc.
Boulder, Longmont
www.amgen.com
Discovers, develops, manufactures and markets human therapeutics based on advances in cellular and molecular biology.

C AmideBio, LLC
Boulder
www.amidebio.com
Focused on providing peptide and protein research reagents and clinical products for a diverse array of research and commercial targets using proprietary Biopure-Process™ technology.

C Ampio Pharmaceuticals, Inc.
Greenwood Village
www.ampiopharma.com
Development stage biopharmaceutical company focused on the discovery and development of novel therapies aimed at treating common inflammatory conditions.

Anabolic Laboratories
Colorado Springs
www.anaboliclabs.com
Focused line of nutritional products, with state-of-the-art pharmaceutical manufacturing facilities in California and Colorado.

Animal Health Options
Golden
www.animalhealthoptions.com
Animal Health Options has been offering high-quality antioxidants and nutritional supplements that meet or exceed industry standards and provide a noticeable benefit to dogs, cats and horses.

C AnImmune LLC
Golden
Infectious disease-centric company focused on enhancing efficacy of animal vaccines using knowledge accumulated through decades of human vaccine technology.

C AntriaBio
Denver
www.antriabio.com
Lead diabetes product candidate, AB101, is a once-a-week injectable basal insulin that is currently in preclinical development. AB101 is administered by subcutaneous injection and targets patients with type 1 and type 2 diabetes who require basal insulin for the control of hyperglycemia.

C ApopLogic Pharmaceuticals, LLC
Aurora
www.apoplogic.com
Focused on the development and commercialization of Breceptin, a unique oncolytic drug for the treatment of a wide range of solid tumors.

Aquatic BioSystems
Fort Collins
www.aquaticbiosystems.com
Full-service organism culturing facility specializing in the production and distribution of freshwater and marine organisms for aquatic toxicology, biomonitoring and other research activities.

ARCA biopharma, Inc.
Broomfield, Aurora
www.arcabiopharma.com
Specializes in developing and commercializing genetically-targeted therapies for heart failure and other cardiovascular diseases.

C Array BioPharma
Boulder, Longmont
www.arraybiopharma.com
Discovers, develops and commercializes targeted small molecule drugs to treat debilitating and life-threatening diseases such as cancer.

C Atlas Biologicals, Inc.
Fort Collins
www.atlasbio.com
Manufactures, markets and distributes animal sera and cell culture reagents.

Aurogen
Fort Collins
www.aurogen.com
Produces a pharmaceutical treatment for diabetic neuropathy, with a second invention showing that neurotrophic hormones can act across the blood-brain barrier to treat various brain disorders.

Aurora Oncology
Aurora
Researching DT-EGF Toxic Fusion Protein for treatment of bladder cancer.

C **Avidity, LLC**
Aurora
www.avidity.com
Develops and sells molecular affinity tools for connecting molecules.

C **Biologistics Medical**
Class 2a/2b and 3 medical device development.

BioResponse, LLC
Boulder
www.bioresponse.com
Researches, develops and commercializes dietary supplements for better absorption and functional foods.

BioServe Space Technologies
Boulder
www.colorado.edu/engineering/BioServe
Researches space life science with a wide range of biotechnology applications involving animals, plants and microorganisms. Specializes in conducting microgravity life science research and designing and developing space flight hardware.

Biosyntrx Inc.
Colorado Springs
www.biosyntrx.com
Develops nutraceuticals to address the micronutrient needs of the dry eye, cataract, macular degeneration, glaucoma and diabetic retinopathy patient.

Bolder BioTechnology, Inc.
Boulder
www.bolderbio.com
Uses advanced protein engineering technologies to create proprietary human protein pharmaceuticals with enhanced therapeutic properties.

Boulder Scientific Company
Mead
www.bouldersci.com
Provides organometallic compounds to the pharmaceutical, polymer, and specialty chemical industries.

Cargill Research
Fort Collins
www.cargill.com
Develops, processes and markets science-based, health-promoting ingredients for food and dietary supplement industries worldwide.

C **CariCord**
Aurora
www.caricord.com
Our mission is to provide parents with the confidence that they have taken the right steps to protect their children's future by securing the finest processing and storage of umbilical cord blood and stem cell products available anywhere in the world.

C **CBL (Chemical and Biopharmaceutical Laboratories)**
Boulder
www.cblbiopharma.com
Offering peptide starting-materials, peptide intermediates, and industrial- and commercial-scale manufacturing of proprietary and generic GMP and non-GMP peptides.

Cell>Point
Centennial
www.cellpointweb.com
Develops novel radiopharmaceutical imaging agents, radiotherapeutic agents and local regional radio/chemotherapeutic drug delivery systems for the diagnosis, treatment and post-therapy asessment of cancer, cardiovascular disease, infectious disease and metabolic diseases.

Cetya Therapeutics, Inc.
Fort Collins
www.cetyatherapeutics.com
Founded to commercialize analogs of the class I isoform selective histone deacetylase inhibitor (HDACi) largazole, targeting unmet medical needs, especially in oncology, neurodegeneration, autoimmunity and hemoglobinopathies.

Cévan International, Inc.
Longmont
www.cevan.com
Delivers vitamins, minerals and botanical extracts as well as specialty nutriceutical formulations and antioxidants.

C **CHATA Biosystems**
Fort Collins
www.chatasolutions.com
Manufactures blended reagents, HPLC mobile phases, standards, buffers and dissolution media.

C **CHD Bioscience, Inc.**
Fort Collins
www.chdbioscience.com
Advancing patient care through the creation of novel antimicrobials for the prevention and treatment of infectious disease.

C **ClinImmune Labs**
Aurora
www.clinimmune.com
Comprises five laboratories to provide services to kidney, heart, lung, pancreas and hematopoietic stem cell transplant programs around the world.

C **Clovis Oncology, Inc.**
Boulder
www.clovisoncology.com
Focused on acquiring, developing and commercializing innovative anti-cancer agents in the US, Europe and additional international markets.

Colorado Biolabs, Inc.
Frederick
www.proferrin.com
Colorado Biolabs, Inc., the manufacturer of Proferrin® ES and Proferrin® Forte, an oral iron supplement made from heme iron polypeptide (HIP).

Colorado Genetics, Inc.
Loveland
www.coloradogenetics.com
Provides livestock embryo-transfer research, artificial insemination, embryo collection, freezing and transfer, and international import and export services.

C **Colorado Histo-Prep (CH-P)**
Fort Collins
www.histoprep.com
Produces high-quality slides, clinical chemistry and hematology data and fully integrated and detailed seamless pathology reports.

Colorado Serum Company
Denver
www.colorado-serum.com
Supplies veterinary biologic vaccines, instruments, laboratory reagents and serums for the veterinary industry.

Corden Pharma
Boulder
www.cordenpharmacolorado.com
Corden Pharma Colorado is the small- to large-scale resource for peptides manufacturing.

C **Crestone, Inc.**
Boulder
www.crestonepharma.com
Drug discovery and development company focused on developing novel treatments for serious bacterial infections.

C **Cytoskeleton, Inc.**
Denver
www.cytoskeleton.com
Offers kits for drug screening, signal transduction and cytoskeletal research specializing in the production of purified proteins and easy-to-use kits to study biochemical and cellular processes.

DaVita Clinical Research (DCR)
Denver
www.davitaclinicalresearch.com
Offers a complete array of early-phase study capabilities through its two state-of-the-art research facilities.

C **ELISA Tech**
Aurora
www.elisatech.com
Provides immunoassays for the measurement of cytokines, growth factors, and lipid inflammatory mediators.

Entero Track
Centennial
Next-generation monitoring of gastrointestinal allergic diseases.

C **Evolutionary Genomics (EG)**
Lafayette
www.evolgen.com
Identifies genes with a high likelihood of commercial value for downstream validation through its proprietary Adapted Traits platform.

C **Flagship Biosciences**
Boulder
www.flagshipbio.com
Oncology drug development and tissue analytics and pathology services.

C **FluoroFinder LLC**
Broomfield
www.fluorofinder.com
Software as a Service (SaaS) experiment design tool for flow cytometry that dramatically improves a medical researcher's productivity and quality while reducing costs.

C **FluTrends International/ STS Health**
Denver, Aurora
www.stshealth.com
Biotechnology company that plans to develop and commercialize products for the prevention of influenza.

C **Gates Biomanufacturing Facility**
Aurora
www.ucdenver.edu/academics/colleges/medical-school/centers/StemCell/Pages/StemCell.aspx
Good Manufacturing Practices Facility FDA approved for production of biologicals from Cell Culture and microbial fermentation suitable for early clinical trials in humans.

Gene Check, Inc.
Greeley
www.genecheck.com
Gene Check is a diagnostic laboratory specializing in veterinary genetics. In addition, Gene Check maintains a dynamic biotech research program, including rare DNA sequence and SNP detection.

C **Genentech**
Denver
www.gene.com
Using human genetic information to discover, develop, manufacture and commercialize medicines to treat patients with serious or life-threatening medical conditions.

Genesis Laboratories, Inc.
Wellington
www.genesislabs.com
Provides services to clients in the agrochemical and pharmaceutical industries, rodenticide research and development, as well as invasive species, zoonotic disease, and conservation research.

GeneThera, Inc.
Westminster
www.genethera.net
Develops and markets the latest molecular technologies to eradicate "cross over" diseases, such as Johne's Disease, Mad Cow Disease, Chronic Wasting Disease, and E.coli. Develops assay tests and vaccines to eradicate the threat to humans of diseases transmitted up the food chain by cattle, elk and deer.

C **GlaxoSmithKline**
Denver
www.gsk.com
Produces medicines that treat six major disease areas – asthma, virus control, infections, mental health, diabetes and digestive conditions as well as vaccines and new treatments for cancer.

C **GlobeImmune, Inc.**
Louisville
www.globeimmune.com
Discovers, develops and manufactures potent, targeted molecular immunotherapies called Tarmogens, targeted antigens that distinguish diseased cells from normal cells, for the treatment of cancer and infectious diseases.

Great Lakes Pharmaceuticals
Denver
www.glpharma.com
Development leading to commercialization of innovative, effective product for prevention of catheter-related microbial infections in clinical and in outpatient settings

Greffex, Inc./ Isogenis, Inc.
Aurora
www.greffex.com
Develops and produces new therapeutics for immune suppression in humans to prevent transplant rejection, improve gene therapy and develop novel approaches to the treatment of autoimmune diseases.

Hauser Laboratories, Division of Microbac
Boulder
www.hauserlabs.com
Provides research, development, and testing to the pharmaceutical, natural products, dietary supplement and medical device industries.

C **HemoGenix**
Colorado Springs
www.hemogenix.com
Private contract research service and assay development laboratory specializing in developing predictive in vitro assay platforms for primary human and animal target cells and stem cell hemotoxicity testing.

C **HepQuant, LLC**
Aurora
www.hepquant.com
Designed test parameters using continuous variables that may be correlated to clinical features or may be followed over time to measure disease progression. HepQuant-E is non-invasive, uses stable (not radioactive) isotopes, and relies on natural, well-defined hepatic functions to measure the portal circulation.

Heska Corporation
Loveland
www.heska.com
Develops advanced diagnostics and specialty products for veterinary practices that focus on companion animals.

Hiberna Corporation
Boulder
Pursuing the potential clinical application of hibernation in order to slow metabolism, thereby extending survival limits in traumas that reduce oxygen to certain cells, e.g. in the heart and brain.

C **Hospira, Inc.**
Boulder
www.hospira.com
Supplies injectable generic and specialty pharmaceuticals. The Colorado site specializes in the supply of active pharmaceutical ingredients for both internal and external markets.

C **i2 Pharmaceuticals, Inc.**
Boulder
i2 Pharm produces drug discovery services to pharmaceutical companies. Using a variety of technologies, i2 creates tools for pharmaceutical drug discovery and development; in addition to proprietary medicinal chemistry services for the expansion of intellectual property protection of early- and late-stage pharmaceutical assets.

imuTek Laboratories, Inc.
Fort Collins
www.imutek.com
Develops and markets bovine colostrums for the nutrition and health products industry. The first manufacturer to receive an indication for colostrum for the passive transfer of antibodies (immunoglobulins) in dry powder form.

C **Invenux LLC**
Windsor
Pharmaceutical research and development for orphan diseases.

InVitria
Fort Collins
www.invitria.com
InVitria develops, manufactures and markets a portfolio of high-performance and well defined cell culture products and reagents used in bioprocessing, biopharmaceutical formulation, stem cell and regenerative medicine, life science research and diagnostics.

JHPIEGO-Denver
Aurora
Designing and implementing effective, low-cost technologies – first product aimed at improving the management of postpartum hemorrhage.

C Johnson & Johnson
Denver
www.jnj.com
Manufactures a broad selection of health care products, as well as a provider of related services, for the consumer, pharmaceutical and medical devices and diagnostics markets.

C KBI Biopharma
Boulder
www.kbibiopharma.com
World class biopharmaceutical CMO/CDMO services organization.

Keeton Industries, Inc.
Wellington
www.keetonaqua.com
Researches and develops biological water treatment, aeration, ozone aeration, solids removal, biofiltration and other new technologies.

Kimball Genetics, Inc.
Denver
www.kimballgenetics.com
Genetic testing laboratory specializing in DNA analysis for common genetic disorders that are preventable or can be treated.

C KromaTid, Inc.
Fort Collins
www.kromatid.com
Develops a method and kit using chromatid paints to improve detection of chromosomal inversions. The improvement is important to medical applications such as cancer and birth defects.

C LABS, Inc.
Denver
www.labs-inc.org
Provides laboratory testing services focused on donor eligibility determination and final product safety; infectious disease, microbiology, histocompatibility and environmental monitoring.

Legacy BioDesign, LLC
Johnstown
www.LegacyBioDesign.com
Conducts peptide and protein formulation and assay development work for biopharma companies. The company also specializes in drug delivery and process development of biotechnology-based products.

C Lohocla Research Corporation
Aurora
www.lohocla.com
Research and development company that is at the forefront of discovery of medications for chronic pain, addictive and other mental health and neurological disorders.

LUCA Lifesciences
Boulder
www.lucalifesciences.com
Utilizes in-plant technology to increase the value of the hemp plant. Applications for industrial grade plastics, textiles and medical devices.

C MBC Pharma, Inc.
Aurora
www.mbcpharma.com
Biopharmaceutical company focused on discovering and developing drugs for bone diseases, such as cancer and osteoporosis.

C MedImmune, LLC, subsidiary of AstraZeneca
Denver
www.medimmune.com
Develops medicines for unmet medical needs worldwide. Industry leader in personalized medicines.

Mediral International, Inc.
Denver
www.mediral.com
Develops, manufactures and sells homeopathic pharmaceuticals, taking into consideration antidotes.

Membrane Protective Technologies Inc.
Fort Collins
www.membrane-protect.com
Blend of organic plant extracts that improves artificial insemination pregnancy rates in cows.

C MenoGeniX
Aurora
www.menogenix.com
Clinical stage biotech company developing MNGX-100, a therapeutic biologic, as a novel, non-hormonal, non-SSRI/SNRI, alternative to treat hot flashes and related vasomotor symptoms in women with natural or surgically-induced menopause. In 2014, MenoGeniX completed a Phase lb/lla clinical trial and is using the data to design additional phase ll/lll trials leading to registration.

C Merck & Co., Inc.
Denver
www.merck.com
Merck and Co. produces products that cover a broad range of areas, including heart and respiratory health, infectious diseases, sun care and women's health. It focuses its research on conditions that affect millions of people around the world – diseases like Alzheimer's, diabetes and cancer – while building strengths in new areas like biologics.

C MicroBiome Therapeutics, LLC
Broomfield
www.mbiome.com
Clinical stage biotechnology company developing pharmaceutical and medical food products that aim to improve health status by interacting with and altering the human microbiome.

MicroChemica, LLC
Fort Collins
Company is focused on environmental remediation using on-line systems and portable units for analysis.

C miRagen Therapeutics
Boulder
www.miragentherapeutics.com
Improves patients' lives by developing innovative microRNA- (miRNA) based therapeutics for the treatment of cardiovascular and muscle disease.

Molecular BioSciences, Inc.
Boulder
www.molbio.com
Manufactures products such as water soluble biotinylation reagents, vitamin derivatives, crosslinking reagents, lipophilic probes, fluorophores, radioiodination reagents and dendritic cores for preparing oligomers.

MonImmune Therapeutics
Fort Collins
Developing a pipeline of repurposed compounds focused on monocyte regulation as vaccine adjuvants.

C Monsanto Company
Englewood
www.monsanto.com
Leading global provider of technology-based solutions and agricultural products that improve farm productivity and food quality.

C Montana Molecular
Bozeman, MT
www.montanamolecular.com
Fluorescent technologies for drug discovery in living cells.

C **Mosaic Biosciences**
Denver, Aurora
www.mosaicbio.com
Start-up company focused on the development of innovative materials for tissue regeneration and repair.

C **Nanoly Bioscience, Inc.**
Denver
www.nanoly.info
Developing a safe and proprietary polymer encapsulation to stabilize and protect therapeutic biological molecules, such as vaccines and enzymes, from below freezing to beyond tropical room temperatures.

C **NanoSphere Health Sciences**
Greenwood Village
www.nanospherehealth.com
Emerging biotech company that has created an advanced delivery system platform of new products. We are changing the way people take and benefit from nutraceutical supplements and medications.

C **Nivalis Therapeutics, Inc.**
Boulder
www.n30pharma.com
Drugs that target nitric oxide reductase (NOR), the most important of which is s-nitrosoglutathione reductase (GSNOR) an enzyme of central importance in human health and disease.

C **Novartis Pharmaceuticals Corporation**
Broomfield
www.novartis.com
Researches and develops products to protect and improve health and well-being with core businesses in pharmaceuticals, vaccines, consumer health, generics, eye care and animal health.

C **Novus Biologicals, Inc.**
Littleton
www.novusbio.com
Develops, tests and markets antibodies for research of human diseases such as cancer, cardiovascular and neurological disorders.

C **Nutrinsic Inc.**
Aurora
www.nutrinsic.com
Early-stage company with proprietary technology capable of producing a cost-effective, sustainably produced protein meal. Product serves as a fish meal replacement (FMR) or additive ingredient for animal feeds, primarily those destined for the aquaculture industry.

Ocugen
Aurora
www.ocugen.com
Novel biotherapeutics to treat eye diseases.

C **Omni Bio Pharmaceutical, Inc.**
Greenwood Village
www.omnibiopharma.com
In preclinical development of a recombinant form of alpha-1 antitrypsin ("AAT").

C **OncoInnovations**
Boulder

OncoTherix
Aurora
www.oncotherix.com
Clinical-stage oncology company focused on the development of InCell-RT (Intracellular radiotherapy) for the treatment of locally advanced cancers (LACs). InCell-RT is a unique, DNA-ligated, nanometer-scale intracellular radiotherapy with the potential to selectively kill cancer cells without causing damage to surrounding healthy tissue and without the development of treatment resistance.

C **OPX Biotechnologies**
Boulder
www.opxbiotechnologies.com
Technology platform enables rapid, rational, and robust optimization of microbes and bioprocesses to manufacture bioproducts with equivalent performance and improved sustainability at lower cost compared to petroleum-based alternatives.

Pambec Laboratories, Inc.
Loveland
Researches drug discoveries in the field of AIDS.

Pathways Bioscience, Inc.
Aurora
Early-stage bioscience company focused on discovering and developing new agents for modifying gene expression and regulating stressresponse pathways that contribute to cell-defense mechanisms.

Peak Analytical, Inc.
Golden
www.peaklab.net
Specializes in materials and chemical analysis. Performs a variety of molecular- and atomic-level spectroscopic techniques to identify failures and defects.

Peak Pharmaceuticals, Inc.
Aurora
www.peakpharma.com
Peak Pharmaceuticals, Inc. specializes in the development, manufacturing, sales and marketing of pharmaceutical-grade, hemp-based nutraceutical and supplement products for the human and animal health markets.

PeptiVir
Aurora
www.site.peptivir.com
PeptiVir is an early-stage biopharmaceutical company focused on the development and commercialization of a conformationally constrained, synthetic peptide-based vaccine platform for the prevention of viral diseases.

C **Pfizer Pharmaceutical Company**
Centennial
www.pfizer.com
Discovers, develops, manufactures, and markets prescription medicines for humans and animals.

PhosphoSolutions, LLC
Aurora
www.phosphosolutions.com
Designs and produces phosphoproteins solutions using phosphor-specific antibodies. Phosphoproteins are thought to be critical elements in neurological diseases, such as Alzheimer's, and in cancer.

Pisces Molecular
Boulder
www.pisces-molecular.com
Focused on applying molecular genetics technology to problems of fisheries and aquatic conservation biology.

Plura Biosciences Inc.
Lafayette
www.plurabioscience.com
Specialized catalysts and chemicals that enable highly efficient, cost-effective and green-chemistry solutions in the manufacture of important life science products.

C **Pyxant Labs Inc.**
Colorado Springs
www.pyxant.com
Provides GLP regulatory bioanalytical support for non-clinical through clinical development programs. Specialties include rare tissues, RNA and oligonucleotide therapeutics, nucleoside antivirals, and agricultural and industrial biotech applications.

Quark Pharmaceuticals, Inc.
Boulder
www.quarkpharma.com
Discovers and develops siRNA drug candidates for treating age-related macular degeneration and prevention of acute renal failure.

Quicksilver Scientific
Lafayette
www.quicksilverscientific.com
Clinical and environmental mercury lab and dietary supplement manufacturing.

Recreo Pharma
Aurora
Resistance-modifying agents to combat antibiotic resistance.

Regenerative Sciences Inc.
Broomfield
www.regenexx.com
Advances stem cell therapies through development of Regenexx™, an injection procedure to treat a wide variety of painful conditions.

C **Rocky Mountain Biosystems, Inc.**
Wheat Ridge
Research and development of transdermal pharmaceuticals and delivery systems, cosmetic devices, and tissue adhesives.

Rocky Mountain Diagnostics, Inc.
Colorado Springs
www.rmdiagnostics.com
Provides immunodiagnostic assays and reagents for biogenic amines, research reagents, a CLIA-certified reference laboratory and contract manufacturing services.

Rocky Mountain Instrumental Laboratories
Fort Collins
www.rockylab.com
Provides contract chromatographic and mass spectrometric analysis of pharmaceuticals (both traditional drugs and biotechnology products, such as proteins and peptides and oligonucleotides), veterinary and human endocrinology and forensic toxicology.

Rocky Mountain Reagents, Inc.
Golden
www.rmreagents.com
Manufactures stains, culture media and chemistry solutions for the medical industry, as well as titration reagents, indicators, acids, bases and a variety of chemicals for industrial uses.

Saigene Biotech Inc.
Denver
www.saigene.com
Developing testing processes to identify harmful algae blooms.

Sandoz
Broomfield
www.us.sandoz.com
Focuses on pharmaceuticals, consumer health, generics, eye care and animal health. Therapeutic categories include anti-infectives, anti-arthritics, cardiovasculars, gastrointestinal agents and psychotherapeutics.

C **Silvergate Pharmaceuticals Inc.**
Greenwood Village
www.silvergatepharma.com
Developer and manufacturer of pharmaceutical products focused on the pediatric market.

SixOne Solutions LLC
Aurora
www.sixonesolutions.com
Developing novel products for the treatment and diagnosis of breast cancer.

STA Laboratories, Inc.
Longmont
www.stalabs.com
Agricultural product testing laboratory that offers seed quality, genomics, plant health and diagnostic services and products.

C **Sudhin Biopharma Company**
Superior
www.sudhinbio.com
Developing compact cell settlers to remove dead cells and cell debris selectively from high cell density perfusion bioreactors. Demonstrating the effectiveness of selective dead cell removal with the smaller microbial yeast secretory expression systems, as it has proven successful with mammalian cells at the commercial scale.

Summit Plant Laboratories, Inc.
Fort Collins
www.plantlabs.com
Applies laboratory plant cloning and greenhouse technologies to produce planting stocks for breeders, greenhouses and field crop producers.

C **SuviCa, Inc.**
Boulder
www.suvica.com
Discovery and development of small molecules for the treatment of cancer.

Taiga Biotechnologies, Inc.
Aurora
www.taigabiotech.com
Develops cellular, biologic and small molecule approaches to treat hematological diseases, including cancers, immunodeficiencies and autoimmune conditions.

C **Takeda America Holdings, Inc**
Fort Collins
www.takeda.us
Focused on developing life-saving vaccines to protect against emerging infectious diseases worldwide. Inviragen's lead product is a vaccine to protect against dengue fever.

C **Thermo Fisher Scientific**
Lafayette
www.thermofisher.com
Scientific leadership and innovation in RNAi, Gene Expression, qPCR/PCR Detection, and Molecular Biology technologies come together with the Thermo Scientific Dharmacon, Open Biosystems, ABgene, Finnzymes and Fermentas product lines to provide world-leading solutions for gene analysis.

C **TOLMAR, Inc.**
Fort Collins
www.tolmar.com
Develops and manufacturers both proprietary and generic pharmaceutical products with specific focus in therapeutic areas of dental, dermatology and oncology.

C **TopGear Automation**
Hartsel
www.topgearautomation.com
Development and validation of biomarkers for environmental exposure, oncology and related diseases.

UBPBio
Aurora
www.ubpbio.com
Manufactures and sells bioreagents related to the ubiquitin-proteasome pathway.

C **UCB, Inc.**
Brussels, Belgium
www.ucb.com
Global biopharma focused on severe diseases with operations in approximately 40 countries .

Upsher-Smith Laboratories, Inc.
Denver
www.upsher-smith.com
Develops, manufactures and markets a vast range of prescription and over-the-counter products for cardiology, dermatology, women's health and other areas.

C **Venaxis Inc.**
Castle Rock
www.venaxis.com
Primarily focused on advancing towards commercialization, our recently patented blood-based human diagnostic test, AppyScore™, to aid in the diagnosis of human appendicitis and several novel reproduction drugs for use in high-value animals.

C **Ventria Bioscience**
Fort Collins
www.ventria.com
Develops a protein expression technology platform called ExpressTec with a product pipeline in human nutrition and therapeutics.

Verdant BioSciences Corporation
Denver
www.verdantbio.com
Develops plant biochemical regulators that provide superior plant performance and unlock the productive power of plants in markets from floriculture to industrial agriculture.

Verkko Biomedical, LLC
Aurora
Verkko Biomedical was formed to commercialize the combustion synthesis technology and manufacture medical grade customized alpha-, beta-phase tricalcium phosphates (α-TCP, β-TCP) as precursor components for customers who operate in the biomedical/medical industry. Verkko will be operating in the ceramic segment of the biomaterials market.

C **VetDC**
Fort Collins
www.vet-dc.com
Cancer-focused veterinary biopharmaceutical company developing innovative under-utilized human technologies for use in companion animals.

C ViroCyt, LLC
Denver
www.virocyt.com
Focused on the commercialization of novel technologies that enable rapid quantification of viruses, such as the Virus Counter 2100.

C VitroBiopharma
Golden
www.vitrobiopharma.com
Develops and commercializes adult stem cell technology for applications in stem cell research, drug discovery and development, and therapeutic products for treatment of disease, injury and tissue regeneration.

Vitrolife, Inc.
Englewood
www.vitrolife.com
Develops, manufactures and sells products and systems for the preparation, cultivation and storage of human cells, tissue and organs. Product areas include fertility, transplantation and stem cell cultivation.

C Vivaldi Biosciences
Fort Collins
www.vivaldibiosciences.com
Developing advanced vaccines for prevention of common seasonal influenza and emergent pandemic flu.

VRL Laboratories
Centennial
www.vrl.net
Laboratory offers full-service regulated donor eligibility testing for the human cell and tissue community.

Warren Analytical Laboratory
Greeley
www.warrenlab.com
Specializes in food microbiology, molecular biology, food chemistry, residue chemistry and nutritional labeling.

Wildlife Pharmaceuticals, Inc.
Fort Collins
www.wildpharm.com
Providing pharmaceuticals for the safe and humane care of non-domestic and exotic wildlife species.

Xalud Therapeutics
Boulder
www.xaludthera.com
Novel therapies for the treatment of neuro-inflammatory diseases and inflammatory joint disorders

YewSavin, Inc.
Fort Collins
www.ajorganica.com
Develops chemical and biochemical technologies. Successfully finished multi-step syntheses using Bromination, Grignard reaction, Suzuki coupling, Amidation, and Esterification reactions.

yuScience LLC
Aurora
Focusing on the development of early-disease biomarkers in patients with multiple sclerosis (MS).

Z Biotech, LLC
Aurora
www.zbiotech.com
Cost-effective biochemical analysis solutions, our focus is to develop innovative microarray and carbohydrate products and related services.

ZeoponiX, Inc.
Boulder
www.zeoponix.com
Investigating the immune-pathogenesis of MS, and identifying key players in disease progression.

BIOFUELS AND RELATED COMPANIES

BioVantage Resources, Inc.
Golden
www.bvialgae.us
Delivers algae-based bioremediation solutions for municipal, industrial and agricultural wastewater treatment.

Carbo Analytics, LLC
Fort Collins
www.carboanalytics.com
Commercial development of an online sugar monitor with immediate application for more cost-effective biofuels production.

Colorado Center for Biorefining and Biofuels (C2B2)
Boulder
www.c2b2web.org
A cooperative research and educational center devoted to the conversion of biomass to fuels and other products. Works to establish ground-breaking research and educational programs for the advancement of renewable energy technologies.

C Ciris Energy, Inc.
Centennial
www.cirisenergy.com
Start-up company developing a unique biotechnology for the conversion of fossil sources of carbon, such as low-rank coals to natural gas and valuable chemicals.

Front Range Energy, LLC
Windsor
www.frontrangeenergy.com
Ethanol producer since 2006. Will process approximately 40 million gallons of ethanol and 396,000 tons of wet distillers' grain annually.

GeoSynFuels, LLC
Golden
www.geosynfuels.com
Develops a low-cost method to convert cellulosic biomass into fuel. The technology uses biological mechanisms set in a solid-state fermenter ("SSF") to convert the biomass into ethanol and/or methane.

Gevo, Inc.
Englewood
www.gevo.com
Develops advanced biofuels like isobutanol, butanol that will provide a sustainable path to the replacement of petrochemicals like gasoline, diesel and jet fuel.

Novo Energy LLC
Fort Collins
www.novoenergyllc.com
Colorado-based renewable energy company that provides state-of-the-art technology, equipment, and project support services for the renewable energy and solid waste disposal industries.

PureVision Technology, Inc.
Fort Lupton
www.purevisiontechnology.com
Develops a carbon-neutral biomass fractionation technology that converts cellulosic biomass into sugars, energy and fiber that are bio-based raw materials to make many industrial and consumer products.

Solix BioSystems, Inc.
Fort Collins
www.solixbiosystems.com
Developed and successfully deployed a robust algal growth system (AGS®) that is based on its proprietary extended-surface area closed photobioreactor panels.

Sterling Ethanol, LLC
Sterling
www.sterlingethanol.com
Produces 42 million gallons of ethanol annually, using the distiller's grain produced as a co-product of ethanol to the area's cattle feeders for its high protein levels.

Sundrop Fuels, Inc.
Louisville
www.sundropfuels.com
A solar gasification-based renewable energy company.

ZeaChem
Lakewood
www.zeachem.com
Developed a cellulose-based biorefinery platform capable of producing third-generation ethanol fuel and intermediate chemicals. Our indirect approach leapfrogs the yield and carbon dioxide (CO2) problems associated with traditional and cellulosic-based ethanol processes.

RESEARCH AND EDUCATION INSTITUTIONS

C Advanced Diagnostic Laboratories (Adx) at National Jewish Health
Denver
www.njlabs.org
The Advanced Diagnostic Laboratories provide innovative services within the extraordinary clinical and research environment of National Jewish Health. Leveraging our expertise in both laboratory medicine and personalized medicine, we offer an ever-expanding menu of diagnostic tests as well as contract research services. Our laboratories are CAP- and CLIA-certified, and have earned the prestigious CAP 15189℠ accreditation.

C BioFrontiers Institute
Boulder
www.biofrontiers.colorado.edu
State-of-the art research and education facility that links the basic sciences, engineering, clinical practice, and industry at the University of Colorado's Boulder campus.

Biological Sciences Curriculum Study (BSCS) Colorado Springs
www.bscs.org
A nonprofit corporation that endeavors to improve all students' understanding of science and technology by developing exemplary curricular materials, supporting their widespread and effective use, providing professional development, and conducting research and evaluation studies.

Bonfils Blood Center
Denver
www.bonfils.org
One of the nation's leading community blood centers through its commitment to quality service, innovation, research and technology. It offers a full range of blood products and services to healthcare partners, including supplying rare blood units or helping to determine the best cross-matched unit to endure the best possible patient outcomes.

C Catholic Health Initiatives Institute for Research and Innovation
Englewood
www.chiresearch.org
Founded by Catholic Health Initiatives (CHI) in 2007, the CHI Institute for Research and Innovation partners with CHI hospitals and physicians to further the advancement of healthcare. From pioneering new models of care delivery to creating partnerships within and outside of CHI, CIRI provides a research community fostering innovation in three distinct areas: 1. Center for Clinical Research (CCR): Sustaining clinical research and trials is costly and challenging. By creating a national model that uses standardized procedures, policies and IT infrastructures, CCR efficiently and effectively manages clinical trials across CHI's hospital network. 2. Center for Health Care Innovation (CHCI): CHCI pioneers new ways to deliver health care. This center is focused on creating and testing new models that will enhance care and better manage populations. 3. Center for Translational Research (CTR): The emerging and revolutionary field of biomedicine and genomics is the focus of CTR.

Centers for Disease Control and Prevention/ Division of Vector-Borne Infectious Disease
Fort Collins
www.cdc.gov/ncezid/dvbd
The Division of Vector-Borne Infectious Diseases (DVBID) is part of the U.S. Centers for Disease Control and Prevention (CDC). CDC is the lead federal agency for protecting the health and safety of people at home and abroad. DVBID serves as a national and international reference center for vector-borne viral and bacterial diseases, such as West Nile virus, Lyme disease, plague, tularemia, yellow fever and dengue. It coordinates national disease monitoring activities, conducts field and laboratory research, responds to epidemic situations, develops strategies for disease prevention and control, provides diagnostic reference and epidemiologic consultation, and conducts technical assistance and professional training activities.

Children's Hospital Colorado
Aurora
www.childrenscolorado.org
Children's Hospital Colorado has been ranked for more than a decade as one of the best children's hospitals nationally in *U.S. News & World Report*, and as the consistent choice eight years in a row by area physicians for the care of their loved ones. Founded in 1908, Children's Colorado is a private, not-for-profit pediatric health-care network dedicated 100 percent to caring for kids. With 1,130 pediatric specialists and more than 2,300 full-time employees, Children's Colorado is home to a number of nationally and internationally recognized medical programs.

C Colorado Center for Drug Discovery (C2D2)
Fort Collins
www.c2d2.org
A non-profit organization funded through the State of Colorado. The organization promotes drug discovery research with Colorado through a combination of funding, medicinal chemistry and modeling expertise.

C Colorado Institute for Drug, Device and Diagnostic Development (CID4)
Aurora
www.cid4.com
CID4's mission is to efficiently transform emerging life science technologies into commercial successes. We do this by employing an experienced Technical and Business Advisory Committee to identify potential opportunities and assist in formulating development strategies combined with an advanced leadership team to ensure speed to market, putting new products and services to work where they are needed.

C Colorado School of Mines
Golden
www.mines.edu
A public research university internationally recognized for its leadership in engineering, applied science and related disciplines, with a special emphasis on the Earth and its resources. These programs, with strong interdisciplinary linkages across the campus, have led to the integration of bioscience and biotechnology into educational and scholarly activities. CSM has created a Bioengineering and Life Science Program that draws upon faculty and students from all of the academic units.

C Colorado State University
Fort Collins, Pueblo, Denver
www.colostate.edu
As one of the nation's leading research universities, Colorado State University is committed to realizing its vision as a 21st century land-grant university. CSU leads the world in such areas as infectious disease research, atmospheric science and environmental science. Its faculty members are tackling such issues as the reemergence of tuberculosis, the brown cloud of air pollution in Asian cities, severe weather forecasting, nutrition and wellness, and bioterrorism. In addition to its excellent programs in those areas, CSU offers among the very best professional programs in the United States in areas like veterinary medicine, occupational therapy, journalism, agriculture and construction management. Its programs in the arts, humanities and social sciences are also outstanding.

Craig Hospital
Englewood
www.CraigHospital.org
Craig Hospital is a world-renowned, premier center for specialty rehabilitation and research for people with spinal cord and traumatic brain injury.

C CSU Research Innovation Center
Fort Collins
www.csuric.org
The Research Innovation Center (RIC) serves as a vehicle to perform collaborative translational-stage research with CSU's life sciences community of researchers, giving it the promise to become the birthplace of medical breakthroughs.

Denver Botanic Gardens
Denver
www.botanicgardens.org
One of the top-ranked botanical gardens in the US, Denver Botanic Gardens offers spectacular plant displays and unlimited opportunities for lifelong learning.

Denver Museum of Nature and Science
Denver
www.dmns.org
The Denver Museum of Nature and Science is the Rocky Mountain region's leading resource for informal science education. A variety of exhibitions, programs, and activities help Museum visitors experience the natural wonders of Colorado, Earth and the universe.

Denver School of Science and Technology
Denver
www.dsstpublicschools.org
DSST Public Schools transforms urban public education by eliminating educational inequity and preparing all students for success in college and the 21st Century. By creating a powerful learning community centered on core values and a shared commitment to academic excellence, DSST will double the number of college-ready graduates in the Denver Public School system by 2020. Over the past decade, DSST has become one of the leading open-enrollment STEM schools (Science, Technology, Engineering and Mathematics) in the U.S. and has become a destination for educators nationwide.

Denver Research Institute
Denver
www.denver-research.org
Denver Research Institute (DRI), founded in 1997, serves as the non-profit organization affiliated with the VA Eastern Colorado Health Care System. It is dedicated to research and its associated educational and scientific endeavors.

Front Range Community College
Brighton, Fort Collins, Longmont and Westminster
www.frontrange.edu
Front Range Community College, Colorado's largest community college, provides instruction, in both general education and occupational areas, which may lead to a certificate, an associate degree, or transfer to a four-year institution. The college also provides college preparatory education, non-credit instruction for personal and professional development, and workplace skill development. With campuses located in Fort Collins, Longmont and Westminster, the college is proud of its many partnerships to provide quality programs that are responsive to the needs of its local communities.

C Keystone Symposia on Molecular and Cellular Biology
Silverthorne
www.keystonesymposia.org
A non-profit organization that serves as a catalyst for the advancement of biomedical and life sciences by connecting scientists within and across disciplines at conferences and workshops held at venues that create an environment conducive to information exchange, generation of new ideas, and acceleration of applications that benefit society.

National Institute of Standards and Technology (NIST)
Boulder
www.nist.gov
NIST is a non-regulatory federal agency that operates eight different science and advanced technology research divisions in Colorado. NIST's list of research accomplishments includes a NIST senior scientist winning the Nobel Prize in 2001 for creating the world's first "Bose-Einstein condensate." In 2003 another NIST scientist won a MacArthur Fellowship for discovering a new quantum gas and was named by Science as one of the top ten scientific advances of the year.

C National Jewish Health
Denver
www.njhealth.org
National Jewish Health, the nation's No. 1 respiratory hospital in the US, attracts thousands of adult and pediatric patients each year who come to us to team up with our expert physicians and researchers and seek treatment for respiratory, cardiac, immune and related conditions. National Jewish Health is also one of the most influential independent biomedical research centers in the world. More than 100 faculty members conduct basic, translational, and clinical research in immunology, respiratory medicine, allergy, cancer, and cell and molecular biology. National Jewish Health ranks among the top ten percent of all institutions for NIH support and for the impact of its research papers in the fields of Molecular Biology, Genetics, and Biology and Biochemistry.

National Renewable Energy Laboratory
Golden
www.nrel.gov
The nation's primary laboratory for renewable energy and energy efficiency research and development (R&D). NREL's mission and strategy are focused on advancing the U.S. Department of Energy's and our nation's energy goals. NREL's R&D areas of expertise are: renewable electricity (solar, wind, biomass, geothermal); renewable fuels (biomass, hydrogen); integrated energy system engineering and testing (buildings, electric systems and transportation infrastructures); and strategic development and analysis (economic, financial, and market analysis, planning and portfolio prioritization).

Power Mountain Engineering Inc.
Fort Collins
www.powermountainengineering.org
Nonprofit afterschool program for gifted and talented students in grades 8-12 who are interested in a STEM career. Students meet with community volunteers for an entire semester to design and build an advanced project from raw materials. The program encourages our best students to take up college studies in STEM by immersing them in an authentic, hands-on R&D experience.

Regis University
Denver
www.regis.edu
The School of Pharmacy aspires to be the foremost school of pharmacy in the United States where students are nurtured and developed to become leaders in pharmacy practice, research, education, and public service. As a result, students graduate as professionals who are knowledgeable, skillful, and principled, and who are able to make a positive impact on the dramatically changing role of pharmacists in our transforming society. They are educated to be committed to excellence in healthcare, evidenced not only by their knowledge and abilities, but also by their quality of care, integrity, compassion, respect, advocacy, initiative, service and leadership. To achieve these goals, faculty members are dedicated to providing innovative practice models, exploring novel applications of basic and clinical research, and illustrating the value of lifelong learning.

Rocky Vista University College of Osteopathic Medicine (RVUCOM)
Parker
www.rvu.edu
Rocky Vista University College of Osteopathic Medicine (RVUCOM) is one of the newest of the 28 colleges of osteopathic medicine currently established or in development in the United States. With five departments – biomedical sciences, structural medicine, primary care, Osteopathic Principles and Practices, Specialty Medicine and Medical Informatics, the faculty and staff of RVUCOM are committed to osteopathic philosophy and heritage, and to advancing the science and the art of the practice of osteopathic medicine.

Scientific Education & Research Institute (SERI)
Thornton
www.theseri.com
SERI is a unique institute that combines an orthopedic clinic, specializing in spine surgery, with a clinical research unit, and an education and training program.

Swedish Medical Center
Englewood
www.swedishhospital.com/
Level I Trauma Center, serves as the region's referral center for neurotrauma and is a recognized leader in the treatment of stroke. An acute care hospital with 368 licensed beds.

United States Geological Survey (USGS) - Center for Biological Informatics
Denver
www.biology.usgs.gov/cbi/
The Center for Biological Informatics, at the Denver Federal Center, operates the national Biological Information Infrastructure (NBII). This is the first comprehensive electronic gateway dedicated exclusively to biological science data and information from sources throughout the world.

C **University of Colorado**
Boulder, Denver, Aurora, Colorado Springs
www.cu.edu
The University of Colorado System's 52,000 students and 28,000 faculty and staff contribute to every facet of life in Colorado. The state's economic vitality, educated workforce, entrepreneurial climate, cultural capital, health care delivery, and scientific explorations all rely on the driving force of a vigorous state university. By working with other CU academic and research units, as well as local, state, and federal funding agencies, commercial business, and nonprofit organizations, CU is creating a collaborative synergy in important areas that will better the wellness of society. The CU Institute of Bioenergetics, the Colorado Initiative in Molecular Biotechnology, the Center for Computational Biology, and the Center for Pharmaceutical Biotechnology attract intellectual strength to Colorado, provide new educational opportunities, and inspire innovative health care advances. Research and teaching hospitals affiliated with the University of Colorado include: The University of Colorado Health, The Children's Hospital, National Jewish Medical and Research Center, Denver Health and the VA Medical Center.

C **University of Colorado Cancer Center**
Aurora
www.uch.edu/colorado-cancer-center
The University of Colorado Cancer Center is Colorado's only National Cancer Institute-designated consortium comprehensive cancer center. The center is a consortium of three state universities, including the University of Colorado-Boulder, University of Colorado Denver and Colorado State University, and six institutions (University of Colorado Health, a network comprised of University of Colorado Hospital, Poudre Valley Hospital, Medical Center of the Rockies and Memorial Hospital; Children's Hospital Colorado; Denver Health, Denver VA Medical Center, Kaiser Permanente Colorado and National Jewish Health).

C **University of Colorado Health**
Loveland, Fort Collins, Colorado Springs
www.pvhs.org
Poudre Valley Health System (PVHS) and the University of Colorado Hospital (UCH) finalized a joint operating agreement in early 2012 that creates a health system its leaders say will widen health care services and provide unparalleled patient care in the Rocky Mountain region. Called University of Colorado Health, the new system combines one of the top-performing community health systems in the nation with the highest-ranked academic medical center in quality in the country. With annual net revenue of $1.5 billion, it will be one of the region's largest locally-owned health systems and, with nearly 10,000 employees, one of Colorado's largest employers.

C **University of Denver**
Denver
www.du.edu
Strives to provide the most modern educational and research facilities in the life sciences. Its history spans the Denver Research Institute's development of the first NASA life monitoring sensors, the establishment of a state-of-the-art forensics laboratory, and the 2003 acquisition of the Eleanor Roosevelt Institute with pioneering efforts in genomics and bioinformatics. In 2004 the School of Engineering and Computer Science unveiled Colorado's first undergraduate program in Bioinformatics and a master's degree in Bioengineering. The interdisciplinary mission of the University enabled the Department of Biology to launch new emphases in Bioengineering, Biophysics and Cognitive Neuroscience designed for molecular biology majors. In addition to strong and quality curricula, bioengineering and life sciences at DU carry multimillion-dollar-a-year research studies in the creation of new knowledge and leading-edge biotechnologies to improve quality of life for a worldwide community.

C **University of Northern Colorado**
Greeley
www.unco.edu
University of Northern Colorado (UNC) is a multipurpose institution with a wide range of graduate and undergraduate programs. The university's mission is to prepare individuals for advanced study, professional careers and positions of leadership.

C **Work, Education and Lifelong Learning Simulation (WELLS) Center**
Aurora
www.wellssimulationcenter.org
For the first time in Colorado, one facility offers a complete array of state-of-the-art patient simulation tools for building clinical knowledge. Even more exciting, high-speed datacasting technology makes this unique resource available remotely. Students, faculty and practicing nurses and physicians from throughout Colorado can enhance their diagnostic and clinical skills at the WELLS Center either on site or online. Housed in the new Bioscience East building at Fitzsimons, the WELLS Center represents a unique collaboration among educators, providers and policymakers.

FOUNDATIONS

C **Boettcher Foundation Webb-Waring Biomedical Research Program**
Denver
www.boettcherfoundation.org
Founded by the Boettcher Family in 1937 to effectively assist, encourage and promote quality of life for the citizens of Colorado, the Boettcher Foundation invests in education, community services, health, and arts & culture through merit awards, scholarships and capital grants. In 2008, the Webb-Waring Institute became a part of the University of Colorado and is now known as the Webb-Waring Center. The Boettcher Foundation was entrusted with the stewardship of the Webb-Waring Foundation's assets. Through an innovative agreement between the Boettcher Foundation, the Webb-Waring Foundation and the University of Colorado, a new funding area was established at the Boettcher Foundation that supports the work of early-career investigators in the biomedical sciences in Colorado.

C **CSU Ventures, Inc.**
Fort Collins
www.csuventures.org
CSU Ventures, Inc. (CSUV) is a 501(c)(3) non-profit corporation that actively supports and promotes the transfer of Colorado State University (CSU) research and innovations into the marketplace for the benefit of society. CSU Ventures serves CSU faculty and researchers who wish to protect and license intellectual property; builds relationships with industries and investors seeking to engage with CSU; and leverages CSU innovation to foster business formation and enhance regional economic vitality.

C **University of Colorado Office of Advancement**
Aurora, Boulder, Colorado Springs
www.cu.edu/advancement
The University of Colorado Office of Advancement collaborates with faculty, staff, benefactors, alumni and friends to raise private support for the university by matching the passions of benefactors with the needs, priorities and goals of each campus.

SERVICE PROVIDERS

Clean Room Services

CO2Nexus, Inc.
www.co2nexus.com

Western States Sales Inc
www.CleanRoomWorld.com

Construction and Facilities

CH2M Hill
www.ch2m.com

CRB Engineers and Builders
www.crbusa.com

Facility Planning Arts
www.planningartsinc.com

Howell Construction
www.howellconst.com

Consulting - General Business

Collective IP
www.collectiveip.com

Neil Burris & Associates
neil@sssnpartners.com

Consulting - Regulatory, Commercialization and Development

CBR International Corporation
www.cbrintl.com

Clinipace Worldwide
www.clinipace.com

Dohmen Life Science Services
www.dohmen.com

Emerson Consultants, Inc.
www.emersonconsultants.com

Hellman & Associates
www.ehscompliance.com

The Mead Consulting Group, Inc.
www.meadconsultinggroup.com

NAMSA
www.namsa.com

Shopp Nonclinical Consulting LLC
www.shoppnonclin.com

Contract Research Organizations

CARE Research LLC/ Colorado Histo-Prep
www.histoprep.com

CPC Clinical Research
www.cpcmed.org

HemoGenix
www.hemogenix.com

High Quality Research, LLC (HQR)
www.hqrllc.com

LABS, Inc.
www.labs-inc.org

Microbial Research, Inc.
www.microbialresearch.com

MPI Research
www.mpiresearch.com

MyCROSite LLC
www.mcsps.com

NextGen Pharma Technologies, Inc.
www.nextgenpharma.com

Plato BioPharma, Inc.
www.platobiopharma.com

Premier Laboratory, LLC
www.premierlab.com

Pre-Clinical Research Services, Inc.
www.preclinicalresearch.com

PreClinical
RESEARCH SERVICES, INC.

GLP/non-GLP Services

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GI/Ortho/Thoracic
Osteoarthritis

Medical imaging
Fluoroscopy
Angiography
Ultrasound/Echo

Toxicology
Pilot/Acute/MTD
14 and 28 Day

Pharmacokinetics
(PK/PD/TK)

www.PreClinicalResearch.com

Pyxant Labs, Inc.
www.pyxant.com

Contract Manufacturing/ Design Organizations

CEA Medical Manufacturing
www.ceamedicalmanufacturing.com

Design Solutions Inc.
www.design-solutions.com

E2i
www.e2i.net

Evergreen Research, Inc.
www.evergreenresearch.com

KBI Biopharma, Inc.
www.kbibiopharma.com

Mountainside Medical
www.mountainsidemed.com

Vention Medical
www.ventionmedical.com

Distribution, Packaging and Sales Force

XPO Global Logistics
www.xpologistics.com

Pozzetta Scientific
www.pozzettascientific.com

Electronic Submissions

TruSubmit
www.trusubmit.com

Economic Development

Adams County Economic Development, Inc. (ACED)
www.adamscountyed.com

Aurora Economic Development Council
www.auroraedc.com

Boulder Economic Council of the Boulder Chamber
www.boulderеconomiccouncil.org

Broomfield Economic Development Corporation
www.broomfieldedc.com

Colorado Office of Economic Development and International Trade (OEDIT)
www.advancecolorado.com

Colorado Springs Regional Business Alliance
www.coloradospringsbusinessalliance.com

Jefferson County EDC
www.jeffco.org

Metro Denver Economic Development Corporation
www.metrodenver.org

South Metro Denver Chamber of Commerce
www.bestchamber.com

Town of Parker
www.parkeronline.org

European Representation and Global Development Strategies

AFEX
www.afex.com

CBR Biotech Strategies GmbH
www.cbrbiotech.com

OuryClark
www.ouryclark.com

Finance, Investment, and Export and International Services

Capital Rx Consulting
www.capitalrxconsulting.com

Conafay Group
www.conafaygroup.com

EY
www.ey.com

Green Tape LLC
www.greentapellc.com

High Country Venture LLC
www.coloradofund1.com

Independent Investment Research
www.independentresearch.com.au

Morgenthaler Ventures
www.morgenthaler.com

Silicon Valley Bank (SVB Financial Group)
www.svb.com

Incubator

Colorado Springs Technology Incubator (CSTI)
www.cstionline.org

Fitzsimons Life Science District
www.FitzScience.com

Innovation Center of the Rockies
www.innovationcenteroftherockies.com

Rocky Mountain Innosphere
www.rmi2.org

Insurance

USI Colorado LLC
www.usi.biz

Chubb Group of Insurance Companies
www.cubb.com

TriNet
www.trinet.com

Woodruff - Sawyer & Co.
www.wsandco.com

Legal Services

Cooley LLP
www.cooley.com

Dorsey & Whitney LLP
www.dorsey.com

Faegre Baker Daniels LLP
www.faegrebd.com

Fox Rothschild LLP
www.foxrothschild.com

Greenberg Traurig LLP
www.gtlaw.com

Gross Cutler Sieler Dupont
www.gcsdlaw.com

HolzerIPLaw, PC
www.HolzerIPLaw.com

Lathrop & Gage
www.lathropgage.com

Polsinelli
www.polsinelli.com

Sage Law Group
www.sagelawgroup.com

Sheridan Ross PC
www.sheridanross.com

Snell & Wilmer
www.swlaw.com

Swanson & Bratschun
www.sbiplaw.com

Marketing, Communications, Events/Hotel and Public Relations

Absolutely Public Relations
www.absolutelypr.com

Aegis Creative
www.aegiscreative.com

Biolexica
www.biolexica.com

Burns Marketing Communications
www.burnsmarketing.com

Griff SMC, Inc.
www.griffsmc.com

KP Corporation
www.kpcorp.com

Planning Partners International, LLC
www.ppimeetings.com

Primavera Group
www.theprimaveragroup.com/

SPRIM Strategic & Ingelligent Innovation
www.sprim.com/

Sprint Press
www.sprintdenver.com

The Bawmann Group
www.morethanpr.com

Woolley's Classic Suites Hotel
www.woolleysclassicsuites.com

Public Policy

Advanced Medical Technology Association (AdvaMed)
www.advamed.org

Biotechnology Industry Organization (BIO)
www.bio.org

Medical Device Manufactuerers Association (MDMA)
www.medicaldevices.org

PhRMA
www.phrma.org

We Work for Health
www.weworkforhealth.org

Real Estate

Fitzsimons Life Science District
www.colobio.com

Forte Commercial Real Estate
www.fortebiobusiness.com

Jones Lang LaSalle
www.joneslanglasalle.com

Recruiting, Placement and Workforce

Aerotek Inc.
www.aerotek.com

Continuum Search
www.continuum-search.com

Kelly Scientific Resources
www.kellyscientific.com

Lab Support
www.labsupport.com

Supplier/Equipment/Disposal-Lab

Airgas
www.airgas.com

Cascade Tek
www.cascadetek.com

Colorado Medical Waste, Inc.
www.coloradomedicalwaste.com

Front Range Scientific
www.frscientific.com

Liquidyne Process Technologies, Inc.
www.liquidyneusa.com

Thermo Fisher Scientific, Inc.
www.thermofisher.com

Testing and Certification

Technical Safety Services
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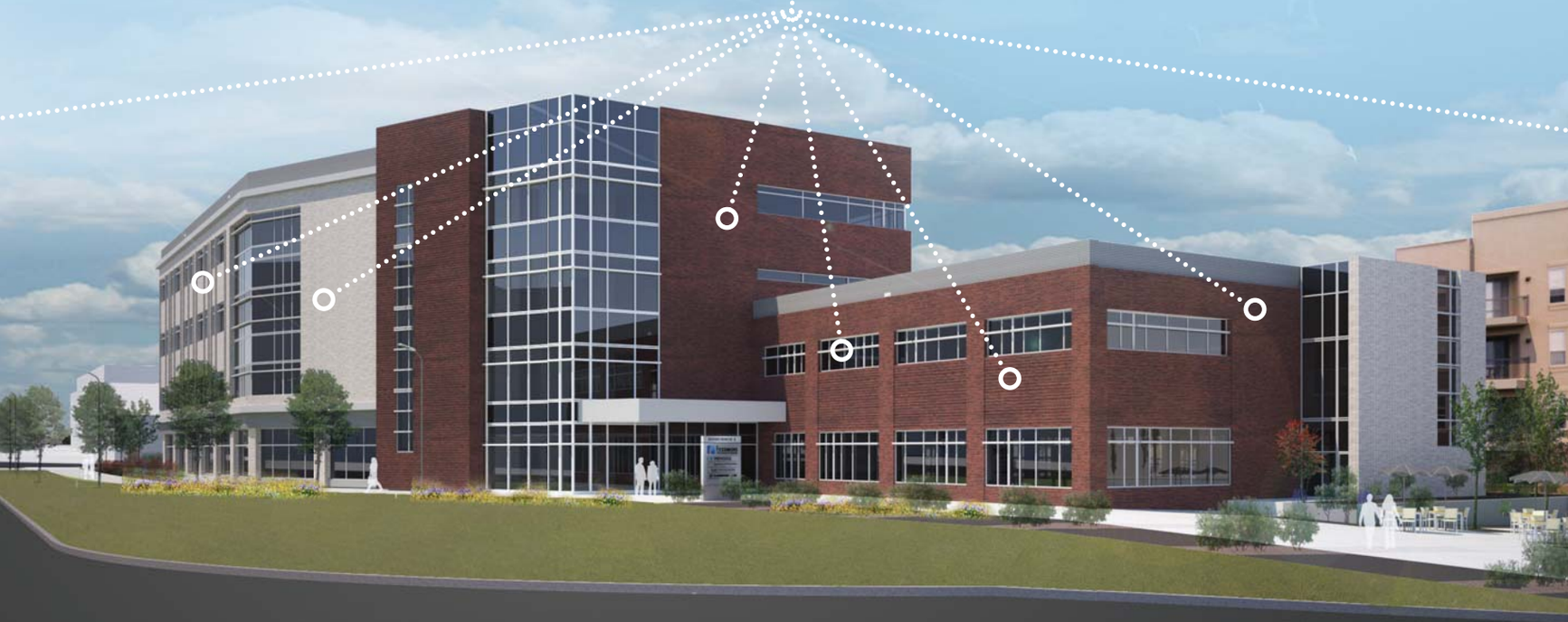

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