

** Plant & Life Sciences Companies **

2002 TOP 50

APATH, LLC

VIROLOGY RESEARCH AND THERAPEUTIC PRODUCT DEVELOPMENT

Paul D. Olivo, M.D., Ph.D., President and Chief Scientific Officer

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St. Louis, MO 63141
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www.apath.com

Apath, LLC, is a biotechnology company specializing in human diseases caused by viruses. It is engaged in the commercial application of virology and viral genetics to discover and develop a broad range of novel diagnostic and therapeutic products for viral infections. "We are particularly focused on the discovery of drugs to treat viruses such as hepatitis C," notes Paul D. Olivo, M.D., Ph.D., president and chief scientific officer. Apath's founder, Dr. Charles M. Rice, is a world-renowned expert on the hepatitis C virus and the company has an exclusive license to several key patents in the field of hepatitis C.

Olivo believes the company's research is also helping America's war on terrorism. "Apath's expertise in medical virology places us in a key position to contribute to the national effort on bioterrorism. Many of the important potential bioterrorism agents are viruses and Apath has responded to the call for proposals from government agencies to address better ways to diagnose and treat a number of bioterrorism agents," he states. The company, which was founded in 1997, is located in the Nidus Center for Scientific Enterprise and has 15 full- and part-time employees.



DAVID KREUTZ

◀ DR. PAUL D. OLIVO, M.D., PH.D., Apath, LLC

CORETECH HOLDINGS, LLC

LIFE SCIENCES INSTRUMENTATION DEVELOPMENT

Douglas L. Martin, President & CEO

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Coretech Holdings, LLC, develops and sells highly specialized instrumentation used in life sciences research, as well as some clinical applications. In all, the company markets more than 800 highly specialized products to university researchers around the world. Doug Martin, president & CEO, says what sets Coretech apart is its business model of bricks and mortar manufacturing and distribution with the "best of" Internet company operations. "We rely on heavy investments in research and development to identify and fulfill unmet needs in the laboratory research marketplace. Our customer service staff includes research Ph.D.s who provide technical support on every product the company sells," he says.

One of Coretech's products in development targets the brain. "One of the things we're most proud about these days is our work on a new, first-of-its-kind, brain injection device that we're developing in collaboration with Harvard Medical School. This tool is expected to improve outcomes on both stem cell research and the treatment of Parkinson's disease, Huntington disease and other neurological ailments." The National Institutes of Health is helping fund its development. The company, founded in 1999, has 20 employees that founded and run a charity called Angel Wishes.

DIVERGENCE, INC.

NEMATODE RESEARCH AND CONTROL

Derek Rapp, CEO

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"We focus on solutions and the control of parasites, particularly nematodes—the round worms that infect plants, animals and humans," says Derek Rapp, CEO. Divergence, Inc., was founded in 1999 and has 15 employees working to safely minimize the damage nematodes inflict. "Approximately \$9 billion in plant damage in the United States is done by nematodes," Rapp points out. Nematodes are the heart worms that infect dogs and the pin worms that infect children. Rapp notes that 200,000 people die each year throughout the world due to nematode-related illness.

The company works with publicly-available genetic information to identify ways to shut off the gene within the nematode sequence to minimize the damage it does or to kill it. Thousands of species of nematodes exist and Rapp says the world may wonder why it should care if the company succeeds in its current plant-specific research. "Current compounds have toxic elements and some growers won't use them and just deal with the yield loss, or others will use these compounds and have to deal with the toxicity," he states. The company will eventually take this genetic information on nematodes to help animals and, eventually, humans.

In March, Rapp was praised by President George W. Bush for his civic leadership in a speech given to hundreds of small-business owners at a roundtable at Albers Manufacturing Company. Rapp is the founder of St. Louis Cares, a United Way agency that matches volunteers with groups and projects in need of help. Bush said: "Derek is the CEO of a small bio-tech firm. He is an economic entrepreneur. But I'm heralding Derek today because he's also a social entrepreneur. He's a person that understands that with freedom comes the responsibility to love a neighbor like you'd like to be loved yourself. And I appreciate that spirit, Derek."

FORREST KEELING NURSERY, INC.

WHOLESALE NURSERY AND PLANT RESEARCH

Hugh Steavenson, Executive Vice President

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www.fknursery.com

Founded in 1949, Forrest Keeling Nursery grows a million container plants and four million bare-root plants for the wholesale nursery market. Situated on 700 acres 50 miles outside of St. Louis, the company is actively researching how to make roots stronger for transplant and resistant to heat, drought and cold. "We have a patent pending on our root production method, which is all natural and helps plants grow stronger, faster," says Hugh Steavenson, executive vice president. He gives an example: "An oak tree may grow one foot in a year, but with Forrest Keeling's root production method, it can grow five feet in a year." Steavenson says this is done by eliminating the taproot and developing a mass of fiber feeder roots that can take on more nutrients and water.

The company has also developed a soil-less mix for planting. "We're doing ongoing research on mixes and fertilization rates that will produce the greatest results in mixed species," he notes. The family-owned business employs 100 people and ships its plants throughout the continental US and Canada.

ISTO TECHNOLOGIES, INC.

ORTHOBIOLGIC THERAPY RESEARCH

Joseph Feder, Ph.D., Chairman, CEO & President

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Isto Technologies, Inc., is a biotechnology company that seeks to develop products for the repair, replacement and regeneration of human tissue that has been injured or destroyed by trauma or disease. The company's primary focus is on orthobiologic therapies, and its initial product is an *in vitro* cultured cartilage graft for the repair or replacement of injured or diseased cartilage of the knee or other joints. Other products include a natural surgical adhesive, a human tissue transglutaminase enzyme for bonding soft tissues, neocartilage test plates for drug discovery, and a bone tissue-derived allograft material for inducing bone repair in orthopaedic and spinal surgery.

Joseph Feder, president, CEO & chairman, says, "What sets us apart from the competition is the company's unique technology for producing a biologically viable, *in vitro* cultured cartilage, termed Neocartilage, which has been shown to integrate into the native tissue and heal an articular cartilage injury. The technology is based on a unique approach to growing cartilage tissue from cells, one which exploits the cell's own potential for forming tissue." Founded in 1997, Isto Technologies employs 15 people.

LINCO RESEARCH, INC.

REAGENT DEVELOPER FOR DIABETES
AND OBESITY RESEARCH

Ron Gingerich, Ph.D., CEO

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www.lincoresearch.com



Since 1978, LINCO Research, Inc., has been devoted to developing assays that meet the needs of scientists working in areas of diabetes and obesity research. This year LINCO introduced the LINCOpex human cytokine kit for simultaneous multi-analyte detection and measurement of 11 cytokines. This kit is the first in the LINCOpex line of immunoassay products. In the coming months, LINCO will introduce a murine cytokine panel and endocrine panels for diabetes/obesity research. LINCO develops and performs immunoassays on human and animal research specimens. This expertise is offered to its pharmaceutical and academic customers as an additional support of laboratory projects.

The company's most recognizable product offerings, Human, Primate, Rat and Mouse Leptin RIA Kits are used worldwide. Other LINCO RIA's include its insulin-specific assay that measures "true" insulin and does not cross-react. Its Rat Insulin RIA continues to remain the premier assay for measurement of rat and mouse insulins.

This is the fourth year Linco has been ranked in the Top 50.



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ORION GENOMICS

AGRICULTURAL RESEARCH

Nathan Lakey, President & CEO

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Orion Genomics, which is housed in the Center for Emerging Technologies, is an agricultural research company dedicated to the improvement of crops through a better understanding of the structure and function of plant genes. "The company was started to take many of the technologies that were developed during the Human Genome Project and to apply those technologies to the agricultural sector," says Nathan Lakey, president and CEO. The company's Gene Thresher platform technology enables rapid discovery of genes responsible for important agronomic traits in crops such as corn, wheat and soy at a cost and time reduction of two- to 30-fold. "We develop technologies that address bottlenecks in the product development in agriculture," he notes. For example, Orion is working to construct gene networks and discover traits such as drought resistance, making corn more tolerant to less rain for longer than normal periods.

In addition to improving plant production, the company also researches renewable energy. Orion, which was founded in 1998 and has 16 employees, recently received a \$15 million cost-sharing grant from the Department of Energy to enhance sorghum, so its contribution to ethanol and plastic production is improved.

One of the four founders of Orion, Richard K. Wilson, Ph.D., associate professor of genetics and of molecular microbiology, was recently named director of the Genome Sequencing Center at Washington University School of Medicine in St. Louis. Last year, he played a significant role in the mapping and sequencing of the human genome, and in the mapping of the mouse genome, completed earlier this year.

QUICK STUDY RADIOLOGY

DIAGNOSTIC IMAGING

D. Skip Sallee, M.D., President & CEO

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www.qs-r.com

Quick Study Radiology (QSR) is a technology-driven services company targeting the needs of hospitals, imaging centers and physicians associated with and working in the diagnostic imaging sector of healthcare. QSR offers digital imaging services to community hospitals and imaging centers, and billing services for imaging centers and radiologists. Skip Sallee, president and CEO, says five parameters set it apart from the competition: a lower cost structure that enables a lower price with appropriate margins to ensure long-term viability, integration services and rigorous project execution, per exam pricing model (which eliminates the large capital expenditure requirement), comprehensive offerings, and a clear market focus on community hospitals.

Headquartered in the Nidus Center (but is expected to move out on its own by year end), QSR was founded in May 2000 and has more than 50 employees. The company is proud of the ROI it provides community hospitals that use its services, which includes a 90 percent reduction in film and chemical costs after five months, a 20 to 40 percent increase in technologist productivity, and a minimum of two percent lost film recovery that translates to a minimum of \$30,000 in average annual new revenue.

SIGMA-ALDRICH

LIFE SCIENCES PRODUCT DEVELOPER

David R. Harvey, Chairman, President & CEO

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www.sigma-aldrich.com

Sigma-Aldrich (NASDAQ: SIAL) is a leading life science and technology company. Its biochemical and organic chemical products and kits are used in scientific and genomic research, biotechnology, pharmaceutical development, the diagnosis of disease and chemical manufacturing. The company has customers in life science companies, university and government institutions, hospitals and industry. Headquartered in midtown St. Louis, Sigma-Aldrich operates in 34 countries and has 6,500 employees providing excellent service worldwide.

In 2001, Sigma-Aldrich added 7,000 new products through purchasing companies and their products or through producing the products in-house. This brings the company's total number of products offered worldwide to more than 85,000. Sigma-Aldrich recently completed its new \$55 million research and development center in St. Louis and is now home to more than 100 R&D scientists, including many newly hired life science researchers. Last year the company earned more than \$1 billion in revenue.

Also, in 2001 they won the Spirit of St. Louis Technology Award in recognition of its long-term commitment to the community and sustained success in the technology industry.

TRIPOS, INC.

DRUG DISCOVERY RESEARCH

John P. McAlister, III, M.D., President & CEO

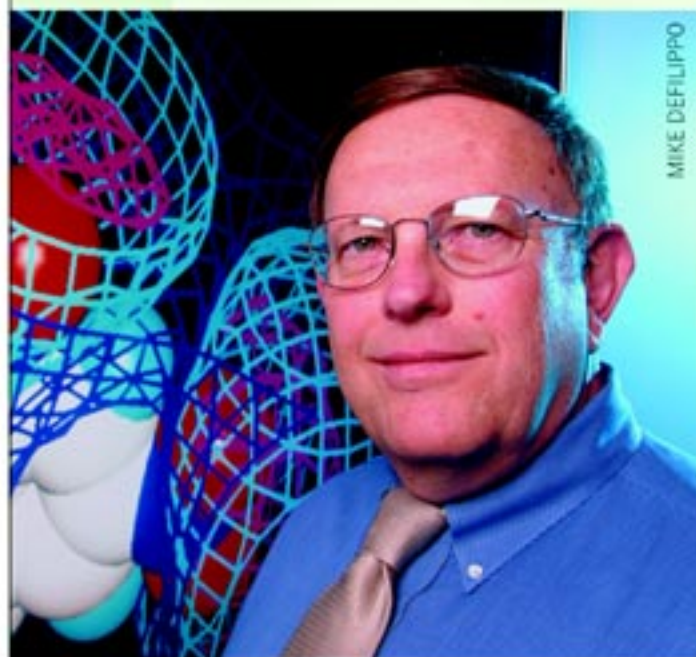
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Tripes (NASDAQ: TRPS) is a leading provider of discovery chemistry, integrated discovery software products, software consulting services, and discovery research services to the pharmaceutical, biotechnology, agrochemical, and other life sciences industries. The company combines information technology and scientific research to optimize and accelerate molecular research for the discovery of new products by customers. Tripes' approach to improving drug discovery provides a seamless pathway from disease target to validated drug candidate through a unique combination of core technologies. These include sophisticated software for molecular design and analysis, high-throughput chemical synthesis of designed chemical compounds, and informatics consulting services that tightly integrate the entire discovery process.

Tripes has been a recognized leader for 20-plus years in developing innovative computational solutions for drug discovery research. This is their fourth appearance in the Top 50 ratings. The company, with more than 300 employees, has more than 1,000 customers in 46 countries, including the top pharmaceutical companies worldwide such as Bayer, Bristol Myers, Merck, Pfizer, Scheering, A.G. and Squibb.

▼ **DR. JOHN P. MCALISTER, III**, Tripes, Inc.



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