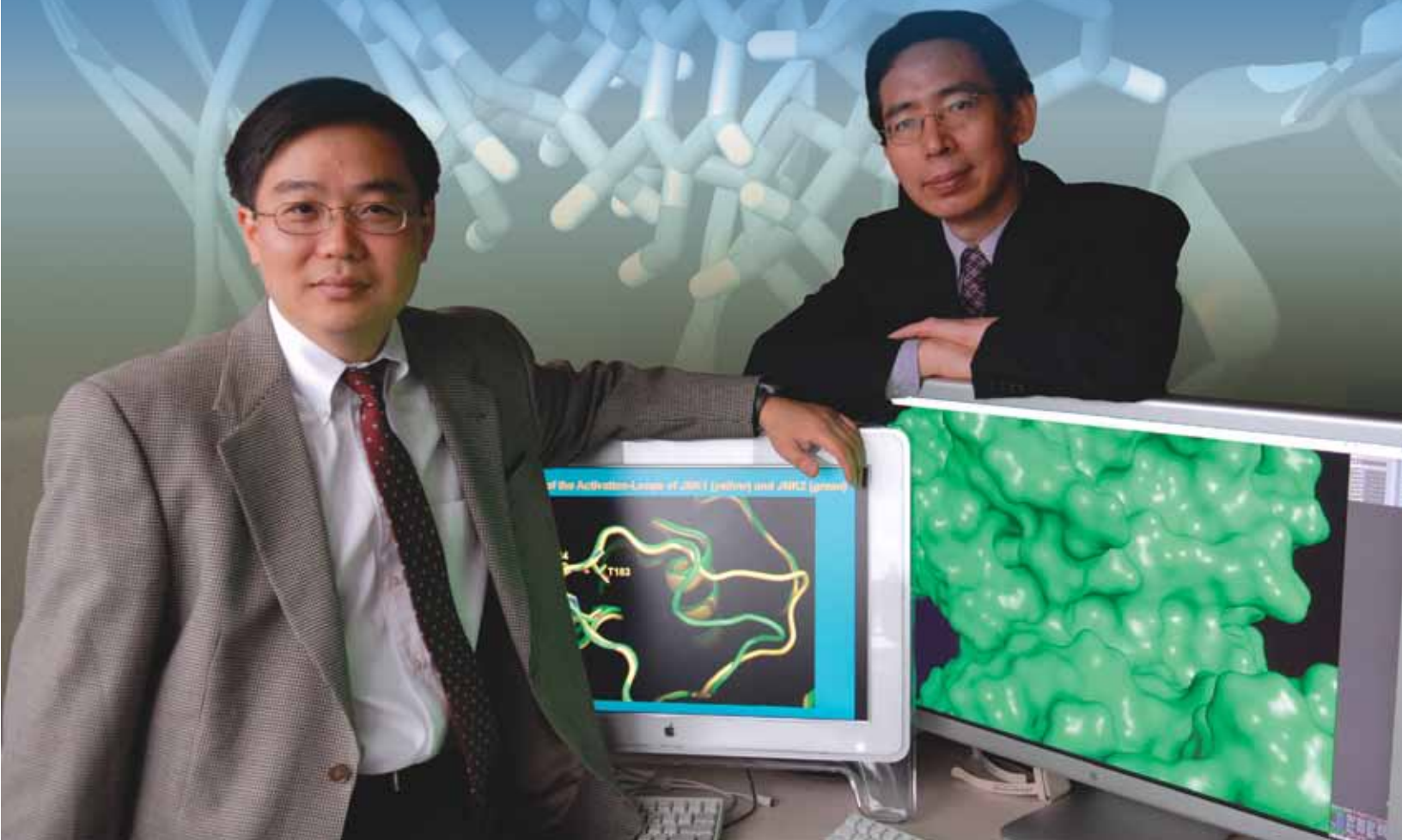


# Minnesota

The Perfect Environment for Bioscience



## Minnesota: A Quality Leader in

- Animal Science
- Bio-Agriculture & Food
- Biomaterials/Biofuels
- Medical Devices
- Pharma/Biologics

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# Minnesota

## The Perfect Environment for Bioscience

From traditional strongholds in medical devices and technology to emerging sectors, Minnesota is a national leader in biosciences ranking consistently in the top in key life science indicators.

The internationally renowned Mayo Clinic and the University of Minnesota form the state's bioscience backbone. And we're exploring new frontiers in bioinformatics with the IBM Blue Gene project. Bioscience also supports tens of thousands of jobs statewide, from research to manufacturing to professional services and many other occupations.

Minnesota ranks third in bioscience-related patents per one million residents and fourth in bioscience occupational employment per one million residents, according to The Battelle/BIO State Bioscience Initiatives report (2010).

And the Greater Philadelphia Life Science Cluster Report ranks Minneapolis ninth in the overall composite index for life sciences (2009).

With one of the nation's best educated workforces, intricate support network for bioscience, growing venture capital capabilities, and landscape of vibrant cities and rural communities, Minnesota offers bioscience companies the perfect laboratory for R&D and manufacturing. Our transportation infrastructure can move products anywhere in the world. Minnesota's economic ecosystem is unparalleled—capable of nurturing tomorrow's bioscience entrepreneurs.

## Medical Devices

Minnesota's storied history in the research, development, and manufacture of medical devices and supplies, dates back to the 1940s. Minnesota's medical device manufacturing industries rank second nationwide (2009).

Well known medical device companies such as Medtronic, St. Jude Medical, 3M Health Care, Boston Scientific, Smiths Medical and American Medical Systems are located in Minnesota.

Minnesota's largest share of venture capital investment has been consistently invested in medical technologies. Companies such as 2010 Tekne award-winner CoreSpine, which develops and produces surgical devices for the lumbar disc space; Zipnosis, online diagnosis and treatment; and Nascent Surgical, which develops products designed to keep surgical areas smoke-free are becoming established in the industry.

Long recognized for innovation and collaborative environments, Minnesota registered nearly 2,220 patents in medical devices between 2005 and 2009, ranking second among all states. More than 900 of these patents were in light, thermal and electrical surgical applications, surpassing all foreign countries combined (519 patents) in this patent class. ●



## Animal Science

From animal feeds, to swine genetics, to robotic technologies for agricultural applications, Minnesota animal science companies—Cargill Animal Nutrition and Feed, CHS Animal Nutrition, Land O'Lakes Purina Feed LLC, EpiTopix, MinnWest and Bimeda to name a few—thrive here.

Minnesota's strength in animal science is reflected in top rankings in livestock and livestock products nationwide. We're a top turkey producer—about 50 million turkeys annually—and home to the largest turkey processor in the nation, Jennie-O Turkey Store.

The University of Minnesota's College of Veterinary Medicine was rated the ninth best veterinary school in the country by U.S. News & World Report (2010). Their Department of Animal Science is recognized both nationally and internationally for its research, teaching and extension programs.

Minnesota R&D institutions, such as Cargill Animal Nutrition Innovation Campus; and Poultry Facilities, Swine Center and Mid-Central Research and Outreach Center at the University of Minnesota, support animal science. ●



## Bio-Agriculture & Food

Minnesota is one of the top producers of food in the nation. Think Green Giant, Yoplait and Cheerios, internationally recognized brands created by Minnesota-based General Mills. In fact, six of the 20 Minnesota's Fortune 500 companies have operations in food and beverages production and distribution: Supervalu, CHS, General Mills, Land O'Lakes, Hormel Foods and Nash-Finch.

We're home to Cargill, the largest private business in the country, as ranked by Forbes, and newcomer Drazil Foods, maker of an antioxidant-rich fruit juice for kids.

The University of Minnesota's Food Industry Center—the only Alfred P. Sloan Foundation-funded industry center that studies the food industry—develops and releases information on how food moves from farm to fork and how well the industry serves consumers and treats employees. ●



## Biomaterials/Biofuels

Minnesota is actively changing the way the world produces and consumes food, feed, materials and energy products. We were the first state in the country to require a five percent biodiesel blend in most diesel fuels. The state also ranks first in the number of gas pumps (360) offering E85 and third in ethanol production with 1,137 million gallons.

Here's a short list of what Minnesota companies are doing: Cargill offers a growing number of products derived from renewable sources. NatureWorks LLC offers a family of commercially available biopolymers derived from 100 percent renewable resources. NatureWorks products include apparel, bottles, films and home textiles.

StarchTech—named one of the fastest growing companies in the country by Inc. 5000 in 2009 and 2010—manufactures eco-friendly packaging material made from corn starch.

Fibrominn Biomass Power Plant is the country's first operating poultry litter plant, producing 55 megawatts annually of carbon neutral renewable energy to power 40,000 homes. Biofuel Energy-Buffalo Lake Energy, LLC is capable of receiving nearly 40 million bushels of corn per year and processing 115 million gallons of ethanol, making it one of the largest, most productive plants in the nation.

The University of Minnesota is involved in biomaterials/biofuels, too. It's one of only three universities in the country to receive funds from the U.S. Department of Energy for sustainable bioenergy feedstock production (2010). ●



## Pharma/Biologics

Minnesota's pharmaceutical and biologics industries have great resources and potential for growth. Minnesota pharmaceutical companies registered more than 400 patents, ranking 18th in the country between 2000 and 2008. And the state added nearly 1,280 jobs in pharmaceutical and medicine manufacturing industries.



A short list of our high-profile pharma/biologics companies includes 3M (durable dental restoratives, biocompatible surgical tapes and dressings, transdermal patches for drug delivery), R&D Systems, Paddock Laboratories, SurModics and Upsher-Smith.

U.S. News and World Report ranks the graduate program at the University of Minnesota's College of Pharmacy third in the country (2008).

Minnesota's bioinformatics powerhouse includes nearly 20 institutions and programs with top faculty and state-of-the-art technology, such as the BioMedical Genomics Center, Center for Mass Spectrometry and Proteomics, Computational Genetics Laboratory, International Center for Research Technology and The Stem Cell Institute. ●

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