Missouri State University’s ABCs of Advancing Biotech Competitiveness

Michael T. Nietzel
President
• The Long-Range Plan: Five Strategic Goals
• Incubating New Ideas
• Missouri State’s Futures Initiative
• Jordan Valley Innovation Center
• Smart Policies
Imagining and Making Missouri’s Future: Missouri State University Long-Range Plan

- Democratizing Society
- Incubating New Ideas
- Imagining Missouri’s Future
- Making Missouri’s Future
- Modeling Ethical and Effective Behavior
Universities are the source of most scientific advances, scholarly discoveries, creative processes, and technological innovations, which collectively are the new lifeblood for the knowledge-based economy of the 21st century.

Missouri State University is selectively expanding its research ambitions, investments, and achievements.

Missouri State intends to become an institution that incubates important new ideas in several fields of endeavor through the work of first-rate faculty, intellectually engaged students, and highly-creative corporate partners.
Imagining and Making Missouri’s Future: Incubating New Ideas

- The University will emphasize three interrelated strategies to accomplish the goal of incubating new ideas
  - It will follow a blueprint for its scholarly futures, involving strategic expansion of research efforts in areas judged to hold special promise for the institution
  - It will develop its research infrastructure especially in the areas of human resources, physical facilities, and research policies and procedures
  - It will mature its graduate and professional programs in areas of greatest need and opportunity
Imagining and Making Missouri’s Future: Incubating New Ideas

- The Task Force on Missouri State University Futures identified 11 interdisciplinary research areas to be considered for additional University support. These emphasis areas will be supported through the Provost’s Incentive Program:
  - American History and Culture
  - Biotechnology
  - Entrepreneurship
  - Environment and Water Resources
  - Global Perspectives with an Emphasis on Asia
  - Health Promotion
  - Materials Science
  - Performing and Creative Arts
  - Research on Human Development
  - Research on Learning, Teaching, and Intervention
  - Technology and Emerging Art Forms
Imagining and Making Missouri’s Future

- In order for Missouri State students to be educated and successful in the fullest sense, the process of incubating new ideas must also be accompanied by informed discussion, debate, and understanding of the uses, values, and purposes of new discoveries and creative products.
Imagining and Making Missouri’s Future

- Missouri State will assure that its students are prepared to confront complex and vexing questions. The University will provide educational experiences that:
  - Stimulate informed dialogue and scholarly engagement about public policy
  - Afford students the best in terms of global education
  - Support special research efforts that address the most substantial problems our local communities will confront in the future
Imagining and Making Missouri’s Future

- A major way the University can imagine the future is to form multidisciplinary centers and institutes that assemble faculty and student talent and that focus on those issues that loom as the biggest threats to a progressive future. One such center at Missouri State University is the Jordan Valley Innovation Center (JVIC).
Jordan Valley Innovation Center (JVIC)

- A Missouri Innovation Center
- Center for Applied Science and Engineering (CASE)
- Center for Biomedical and Life Sciences (CBLS)
The Jordan Valley Innovation Center (JVIC) fills a economic development gap in the region by providing new opportunities for businesses concentrating on advanced technology, biotechnology, life sciences, and nanotechnology research and development. 

The Center will:

- Develop an advanced manufacturing capability to test and prototype the manufacture of Center for Applied Science and Engineering (CASE) and Center for Biomedical and Life Sciences (CBLS) product-development projects
- Enhance ongoing research in the life sciences, specifically in the area of medical materials, device, and instrument technologies
- Develop a program to redesign, build, and, refit equipment or MEMS device fabrication
Center for Applied Science and Engineering (CASE)

- **Mission:** To support advanced materials and biotechnology industries in Missouri. CASE emphasizes research and development in:
  - Sensors for bio/chem airborne or waterborne antigen detection
  - New carbon-based materials for hard coat and shelter applications
  - New devices for use in environmentally-challenging environments
Center for Biomedical and Life Sciences (CBLS)

- **Mission:** Support advanced technology research and development in the biomedical and life sciences with a focus on research and development of medical materials, devices, and instrumentation.
  - Corneal reconstruction using an implanted collagen scaffold
  - Controlled release of anti-inflammatory and tissue repair agents from prosthetic devices and for burn treatment
Jordan Valley Innovation Center

Former MFA Milling facility located on 2.04 acres in Springfield’s Center City
Jordan Valley Innovation Center

March 2006

$16 million renovation project that will house:

- Class 10, 100, and 1000 clean rooms
- World-class microscopy lab
- Robotic clean room
- Micro-device fabrication facility
- Rapid prototyping facility
Jordan Valley Innovation Center

July 2006
Jordan Valley Innovation Center

- **Tenants:**
  - Brewer Science (Rolla, MO)
  - Crosslink (St. Louis, MO)
  - Nantero (Boston, MA)
  - Carbon Nanotechnologies (Houston, TX)

**Opening Date:** May 2007
Smart State Policies that Sharpen Missouri’s Edge

- Missouri has potential to be a leader in the life sciences if it establishes the necessary infrastructure and funding including:
  - Approving and launching the Lewis and Clark Initiative
  - Fully funding the Life Sciences Research Trust Fund
Smart University Policies that Sharpen Missouri’s Edge

- Missouri State University has potential to be a leader in the life sciences and in economic development if it:
  - Continues its company-friendly Intellectual Property (IP) Policy
  - Adopts research policies that makes the University more nimble and flexible
Smart University Policies that Sharpen Missouri’s Edge, Cont.

- Missouri State University has potential to be a leader in the life sciences and in economic development if it:
  - Incentives for faculty research through workload policies and by investment in core facilities
  - Emphasizes multidisciplinarity in faculty hiring and new program development
  - Continues to establish strategic centers and institutes (for example, the new Center for Grapevine Biotechnology)