

State Technology Development and Commercialization Programs

A Survey of the States

G. Michael Alder
President, National Centers of Excellence



For

WestCAMP, Inc.
Copyright by WestCAMP©2005

Original Study Release Date:
September, 2005

Latest Study Update:
March 1, 2006

Contents

	Page
Introduction	3
Methods.....	4
Discussion.....	4
Results	4
Summary Table.....	4
Best Practices	5

State Profiles

1. Alabama.....	14
2. Alaska.....	15
3. Arizona	16
4. Arkansas.....	18
5. California	19
6. Colorado	20
7. Connecticut	21
8. Delaware	22
9. Florida	23
10. Georgia	25
11. Hawaii	26
12. Idaho	27
13. Illinois	29
14. Indiana	31
15. Iowa	32
16. Kansas	34
17. Kentucky	35
18. Louisiana	36
19. Maine.....	38
20. Maryland	40
21. Massachusetts	42
22. Michigan	43
23. Minnesota	46
24. Mississippi.....	47
25. Missouri.....	48
26. Montana.....	49
27. Nebraska	49
28. Nevada	50
29. New Hampshire	51
30. New Jersey.....	52
31. New Mexico	53
32. New York	54
33. North Carolina	57
34. North Dakota	58
35. Ohio	60
36. Oklahoma	63
37. Oregon	65
38. Pennsylvania	67
39. Rhode Island	68
40. South Carolina	69
41. South Dakota	72
42. Tennessee	73
43. Texas	74
44. Utah	77
45. Vermont	79
46. Virginia	80
47. Washington	81
48. West Virginia	83
49. Wisconsin	85
50. Wyoming	86

Introduction Eight years ago a survey entitled “A Study of the Needs of State Technology Development Programs” was conducted for the National Institute of Standards and Technology (NIST) and their Office of Technology Innovation (OTI). Since that time the OTI has been discontinued and its function absorbed into the Department of Energy.

Last year WestCAMP, Inc. a not-for-profit organization that holds the contract for NIST’s Manufacturing Extension Program (MEP) in Utah made a decision to revisit certain aspects of the 1997 study. During 2005 each state was surveyed to determine their level of investment in each of the following areas:

- Basic and applied research programs
- Technology maturation and commercialization programs
- Seed funding and venture capital

This document reflects the new data collected from various documents, the websites and a responsible agent or agents from each state in the union. The information is presented in summary form and by individual state in alphabetical order.

This study differs from the 1997 survey inasmuch as it was undertaken to update the data cited above. Though the needs of state programs are still great, the State Science and Technology Institute (SSTI) has come into existence since the time of the previous study. That organization has grown to become a strong advocate and policy voice in the country for the whole area of technology development and commercialization. SSTI’s activities have made it possible to create a political framework for new programs that can assist the states in their quest to move further into the “Knowledge Based Economy” of the future.

It is apparent that the magnitude of the programs being committed to and invested in by the states as shown in this document demonstrates an under emphasized phenomenon in the US today that is “technology transfer happens locally”. This being the case there is great opportunity for the federal government to “assist” the process.

In the past the SBIR/STTR programs and the ATP have provided funding for advancing technologies towards commercialization. A key feature of these programs has been that grants are awarded directly from the federal government to private companies without involving the states. It is apparent through this update that most of the states are trying to influence their own future economies through investment in technology niches. Now seems to be the right time to move beyond the existing programs to help the states be as successful as possible with what they are attempting to accomplish. Another reason for the timeliness of this suggestion is the success of the MEP. Over the past ten (?) years the MEP nationally has demonstrated that bridging state and federal governments to assist the private sector can be successful. They are taking a federal match with state funding and generating fees to fund a program that helps small to medium sized manufactures be more competitive. **It is WestCAMP’s serious belief that now is the time to create a new federal/state program that will provide matching funds (prorated by the states population and with an appropriate cap on funding) to help fund technology development, seed funding and technology deployment in the individual states.** It is suggested that it be of a similar magnitude as the SBIR/STTR program to be meaningful.

Methods An early attempt was made to mail a written survey questionnaire to each state with little to no response. Following that mailing, information on each state was gathered and developed from websites, news sources and written reports (with special acknowledgement to “Laboratories of Innovation: State Bioscience Initiatives 2004 prepared by Battelle Technology Partnership Practice and SSTI). When information was thought to be complete enough, that information was emailed to and verified by state authorities by direct consultation.

Discussion It was clear to the author from the numerous discussions held throughout the country that most of the states are now very involved in technology development, technology maturation and technology commercialization. Most states have now made investments in one of the three areas surveyed. **It is significant that fourteen states have programs that address all three areas in the continuum of technology development, technology maturation, seed funding and venture capital formation.** All of the states that were contacted indicated that they would welcome assistance from the federal government to accelerate their existing programs. They felt that limited resources in many cases substantially reduce the pace of technology commercialization. Though there were many successful state programs that were moving technologies into start up companies no state indicated that they had effective programs for the deployment of their new technologies into existing companies in their state.

Results The amount of funding being invested by the states in technology development since 1997 has approximately tripled. The total amount being invested in the categories measured is over \$2.8 billion. That amount does not include California’s initiative to invest in stem cell research (an additional \$3 billion). Forty-two states now provide funding in some form to accelerate the development of technologies at their research universities and colleges – that is up from thirty-three states 8 years ago. Thirty-seven states are participating in programs to mature technologies and twenty-three have programs that invest in the formation of venture capital.

Summary Table

State	State Research Investments	Tech. Maturation and Seed Funding	Venture Capital Investments
Alabama	0	50,000,000	0
Alaska	1,000,000	0	0
Arizona	11,500,000	1,500,000	62,000,000
Arkansas	13,000,000	2,000,000	70,000,000
California	(pending) 0	20,000,000	240,000,000
Colorado	0	200,000	50,000,000
Connecticut	3,000,000	5,000,000	133,000,000
Delaware	6,000,000	10,000,000	0
Florida	81,800,000	2,000,000	0
Georgia	7,700,000	8,000,000	0
Hawaii	225,000	0	78,500,000
Idaho	290,000	0	0
Illinois	10,700,000	3,000,000	12,000,000

Indiana	110,000,000	0	72,000,000
Iowa	1,300,000	5,200,000	135,000,000
Kansas	4,500,000	4,000,000	0
Kentucky	4,100,000	10,000,000	11,100,000
Louisiana	13,000,000	5,750,000	0
Maine	34,500,000	5,500,000	8,000,000
Maryland	14,900,000	10,000,000	16,500,000
Massachusetts	20,000,000	20,000,000	0
Michigan	95,000,000	2,050,000	150,000,000
Minnesota	35,000,000	4,000,000	0
Mississippi	1,500,000	0	0
Missouri	7,600,000	1,164,000	0
Montana	0	20,000,000	0
Nebraska	0	500,000	0
Nevada	0	0	0
New Hampshire	0	505,000	0
New Jersey	32,000,000	0	0
New Mexico	3,000,000	0	20,000,000
New York	16,500,000	4,000,000	0
North Carolina	6,000,000	0	10,000,000
North Dakota	20,000,000	20,000,000	5,000,000
Ohio	69,000,000	18,000,000	0
Oklahoma	5,000,000	900,000	0
Oregon	21,000,000	37,000,000	100,000,000
Pennsylvania	65,800,000	100,000,000	60,000,000
Rhode Island	3,000,000	0	0
South Carolina	92,000,000	15,000,000	50,000,000
South Dakota	2,700,000	20,000,000	0
Tennessee	17,400,000	0	0
Texas	100,000,000	50,000,000	0
Utah	3,000,000	0	100,000,000
Vermont	0	0	25,000,000
Virginia	\$13,900,000	500,000	0
Washington	2,500,000	25,000,000	0
West Virginia	6,300,000	1,000,000	27,250,000
Wisconsin	400,000	600,000	35,000,000
Wyoming	0	440,000	0
Totals	\$930,615,000	462,829,000	1,470,350,000

Best Practices As part of this report, contributors from states that are doing a substantial amount of technology commercialization were asked to identify programs that were working best, or had achieved the most results, or were most innovative. This list comes as a result of those responses.

COLORADO

Contact: Christine Shappard
Colorado Office of Economic Development and International Trade
Office of Innovation and Technology
1625 Broadway, Suite 1700
Denver, Colorado 80202
(303) 892-3850
Christine.shappard@state.co.us

Program: Colorado Venture Capital Authority

Description: The legislature created this authority and transferred funds from the existing CAPCO program for investment in venture capital funds. The legislation requires that the funds be used to provide seed and early stage capital (25% rural and 25% urban distressed). A professional fund manager was hired in May and the fund is now ready to make standard venture investments with a focus on early stage.

History: Legislation was enacted in March 2004

Funding: \$50 million

MONTANA

Contact: Dave Desch, Executive Director
Montana Board of Research and Commercialization Technology
P.O. Box 20000501
Helena, Montana 59620-0501
(406) 841-2760
ddech@state.mt.us

Program: Montana Board of Research and Commercialization

Description: This Board operates as a unit of the Department of Commerce and it functions to award grants or make loans for university/industry collaborations with a clear path to commercialization in several fields, including biotechnology, chemistry and production or value-added agriculture. Awards range up to \$500,000 for 2 years (the average award is about \$100,000). Approximately 80 projects are funded through 2005.

History: Began 2000 - \$20 MM invested to date

Funding: \$3.5 million annually

NEW YORK

Contact: Jim Denn, Director of Operations
NYS Office of Science, Technology and Academic Research
Empire State Development Corp.
30 So. Pearl Street, 7th floor
Albany, New York 12245
(518) 292-5700
jdenn@nystar.state.ny.us

Description: Each of five centers is funded between \$35 million and \$50 million over five years, which includes budget for capital improvements.

- Center of Excellence in Bioinformatics and Life Sciences, Buffalo
- Center of Excellence in Environmental and Energy Systems, Syracuse
- Center of Excellence in Photonics and Microsystems, Greater Rochester
- Center of Excellence in Nanoelectronics, Albany
- Center of Excellence in Wireless & Information Technology, Stony Brook

Program: Centers of Advanced Technology (CATs)

Description: These 15 centers are funded by the New York State Office of Science, Technology and Academic Research (NYSTAR). They exist to encourage university/industry partnerships.

- Center for Life Science Enterprise, Cornell University
- Center for Advance Biomedical and Bioengineering Technologies, University at Buffalo
- Center for Advanced Technology in Photonics Application, City University of New York
- Center for Advanced Ceramic Technologies, Alfred University
- Center for Advanced Materials Processing, Clarkson University
- Center for Advanced Information Management, Columbia University
- Future Energy Systems, Rensselaer Polytechnic Institute
- Center for Automation Technologies and Systems, Rensselaer Polytechnic Institute
- Center for Advanced Technology in Telecommunications, Polytechnic University
- Center for Advanced Technology in Medical Biotechnology, Stony Brook University
- Integrated Electronics Engineering Center, Binghamton University
- CASE Center, Syracuse University
- Sensor CAT, Stony Brook University
- Center for Advanced Technology for Electronic Imaging Systems, University at Rochester
- Center for Advanced Technology in Nanomaterials and Nanoelectronics.

Funding: \$15 million per year total

Program: Technology Transfer Incentive Program

Description: One-time funding to run for up to two years for applied research matched 1:1 by a company within the state.

Funding: \$4 million

OHIO

Contact: Marc Cloutier, Ph.D.
Ohio Department of Development
Technology Division
77 South High Street, 25th Floor
Columbus, Ohio 43215
(614) 466-0270
mcloutier@odod.state.oh.us

Program: BRTT Partnership Program

Description: Provides grants to support biomedical and biotechnology research leading to Ohio commercialization. Projects are to be collaborations among Ohio higher education institutions, nonprofit research organizations and Ohio companies. The funding comes from Ohio's tobacco settlement dollars.

- Brain Neuromodulation Center \$7.9 million
- Comprehensive Program for the Prevention, Detection, and Treatment of Lung Cancer \$8.0 million
- Neurostimulation and Neuromodulation Partnership \$7.9 million
- Genetics of Gastrointestinal Cancer \$10.2 million
- Genome Research Infrastructure Partnership \$9.0 million
- Biomedical Informatics Synthesis Platform \$6.0 million
- Cardiovascular Bioengineering Enterprise \$6.5 million
- A Commercialization of Immunotherapeutics for MS \$4.0 million
- Targeted Nanoparticles for Imaging and Therapeutics \$4.0 million
- Clinical Tissue Engineering Center \$4.0 million
- AMD Initiative for Prevention and Cure \$6.0million

History Created in 2000 and first awards made in 2002

Funding \$24 M for 2006

OREGON

Contact: Krissa Wrigley, Innovation and Technology Specialist
Oregon Department of Economic and Community Development
121 SW Salmon, Suite 205
Portland, Oregon 97204
(503) 229-6051
krissaw.wrigley@state.or.us

The Oregon Nanoscience and Microtechnologies Institute. It has been recognized by the White House Science Advisor as an unparalleled example of collaboration. The 3 research designated universities in Oregon are fully collaborating with each other, a national lab (Pacific Northwest National Lab) and industry - all on one project.

Funding: To date, state investment of \$21M. The 2005 Legislature allocated an additional \$7M for research packages, tech transfer and IP protection related to commercialization.

PENNSYLVANIA

Contact: Rebecca Bagley, Deputy Secretary for Technology
Pennsylvania Department of Community and Economic Development
400 North Street, 4th Floor
Harrisburg, Pennsylvania 17120
(717) 720-1367
rbagley@state.pa.us

Program: Ben Franklin Technology Development Authority

Description: Maintains an annual funding pool through which it funds four long-standing regional technology centers and also can support large-scale university research program and make direct investments either in companies or in venture capital firms across all technology sectors.

Funding: \$55 million annually

Program: Life Sciences Greenhouses

Description: Three regional centers focused on various aspects of life science commercialization. BioAdvance in Philadelphia; Pittsburgh Life Sciences Greenhouse in Pittsburgh and the Central Pennsylvania Life Sciences Greenhouse make up the three.

Funding: Each center has \$33 million of tobacco settlement money allocated over 5 years.

SOUTH CAROLINA

Contact: Eric Miller
South Carolina Department of Commerce
1201 Main Street, Suite 1600
Columbia, South Carolina 29201
(803) 737-0400
emiller@sccommerce.com

Program: Centers of Excellence

Description: South Carolina's Research Centers of Economic Excellence awards are incentives for its senior research universities to raise capital from the private sector to endow at least one newly recruited professorship and to provide associated space, equipment, and technical research staff. The intent of the program is to create a critical mass of senior researchers around whom a Center of Excellence can be built. Such a Center will include other senior and junior faculty, graduate students, and public/private partnerships with business and industry.

History: During the 2002 legislative session, the South Carolina General Assembly passed the *South Carolina Research Centers of Economic Excellence Act*. With an allocation of \$30 million in lottery funds, to be matched on a dollar-for-dollar basis with non-state funds, the General Assembly established a competitive grants program to award South Carolina's three research universities (Clemson University, the Medical University of South Carolina, and the University of South Carolina) funds for endowed professorships in areas that will enhance economic opportunities for the state's citizens. The Act created the *Centers of Excellence Matching Endowment*, which is to be funded annually by appropriations from the South Carolina Education Lottery Account in an aggregate amount not to exceed \$200 million by 2010.

Projects: In three rounds, the following projects were supported:

Clemson University

- Automotive Research \$5 million
- Automotive Manufacturing \$5 million
- Automotive Design & Development \$5 million
- Photonic Materials \$5 million
- Restoration \$3 million
- Vehicle Electronic Systems \$3 million
- Electron Imaging \$5 million
- Supply Chain Optimization & Logistics \$2 million

University of South Carolina (USC)

- Nanostructures \$4 million
- Polymer Nanocomposite \$3.5 million

- Hydrogen Fuel Cell Economy \$5 million
- Travel & Tourism Technology (with Coastal Carolina University) \$2 million
- Fuel Cells/Hydrogen Economy \$3 million

Medical University of South Carolina

- Marine Genomics \$4 million
- Proteomics \$4 million
- Neuroscience \$3 million
- Brain Imaging (with USC) \$5 million
- Regenerative Medicine (with Clemson/USC) \$6 million
- Translational Cancer Therapeutics (with USC) \$5 million
- Drug Discovery in Cancer (with USC) \$5 million
- Gastrointestinal Cancer Diagnostics \$5 million
- Vision Science (with USC) \$4.5 million

Funding: \$92 million has been funded to date.

Program: Research Innovation Centers

Description: The Centers are designed to connect university research with private industry and will be under the South Carolina Research Authority (SCRA). The General Assembly included in the budget bill a proviso requiring the SCRA to transfer \$3 million immediately and \$12 million over for four years to create and operate the three centers. The Centers will help move cutting-edge research from campus labs into the marketplace.

History: During the 2005 legislative session, the South Carolina General Assembly passed legislation providing for the establishment of three Research Innovation Centers on the campuses of Clemson University, the University of South Carolina, and the Medical University of South Carolina.

Funding: \$15 million.

UTAH

Contact: Nicole Toomey Davis, Director, Centers of Excellence Program
 324 South State Street
 Salt Lake City, Utah 84111
 (801) 538- 8687
<http://goed.utah.gov/COE/index.html>
ndavis@utah.gov

Program: Utah Centers of Excellence Program

Description: This program is one of the longest continuous technology commercialization programs in the U.S. University technologies that hold promise for becoming commercial are awarded funding for up to four years. Centers are generally awarded \$100,000 to \$200,000 annually to advance the technology development. Each Center is also mentored by a carefully selected business team comprised of seasoned technology executives and serial entrepreneurs to bridge the academic success into a commercial success. 18 centers are currently being funded with 3 additional groups receiving business planning funding:

- Acoustic Cooling Technology (U/U) (Business Planning)
- Acoustics Research (BYU)
- Advanced Communications Technology (BYU)
- Advanced Imaging LADAR (USU)
- Advanced Satellite Manufacturing (USU)
- Alternate Strategies of Parasite Removal (U/U)
- Biomedical Microfluidics (U/U)
- Computational Design & Testing of Novel Materials (U/U)
- Control of Flow in Manufacturing (USU) (Business Planning)
- Direct Machining and Control (BYU) (Business Planning)
- Global Knowledge Management (U/U)
- High-Speed Information Processing (USU)
- Homogeneous DNA Analysis (U/U)
- Interactive Ray-Tracing & Photo-Realistic Visualization (U/U)
- Magnetic Sensor & Actuator Materials (U/U)
- Microarray Technology (U/U)
- Miniature Unmanned Air Vehicles (BYU)
- Modified Activated Carbons Technology (U/U)
- Nanosize Inorganic Material Powders (U/U)
- Therapeutic Biomaterials (U/U)
- Titanium Boride Surface Hardening (U/U)

History: Continuous program since 1987

Funding: \$3 million per year currently

Individual State Profiles

-ALABAMA-

Contact: Ms. Terri Adams, Science and Technology Division Director
Alabama Department of Economic and Community Affairs (ADECA)
401 Adams Ave.
Montgomery, Alabama
P.O. Box 5690
Montgomery, Alabama 36103-5690
(334) 242-5952
terria@mail.state.al.us

Program: Hudson-Alpha Institute for Biotechnology

Description: Governor Riley and the State Legislature have provided \$50 million in state matching funds with \$80 million in private donations to create this new biotechnology center in Huntsville. The plan is to have the Institute operational in 2007 with room for 8 companies and 8 research teams, all being housed in the 286,000 square foot building.

Funding: One time matching funds of \$50 million appropriated in 2005

Program: Alabama Research Alliance

Description: Grants for up to \$100K were given to university technologies that had industry partners that were poised to take the products forward to be commercialized. Funding for projects from this program have been suspended pending the rebuilding of the corpus. In the past the fund has been as high as \$10 million but funds were spent for a building in Huntsville. The law funding this program only allows the spending of interest or other income that comes from investing the corpus. The funds come from oil royalties from offshore oil rigs in the Gulf.

History: In the past there has been up to \$1 million per year available. It is anticipated that the same type of program may be reinstated when the body of the fund is built back up. The Governor and the Chancellor of the University system are co-chairs of this program.

Funding: \$1 million per year. Has been inactive for the past 5 years

-ALASKA-

Contact: Carol McConkie, Director of Development
Department of Community and Economic Development
P.O. Box 110800
Juneau, Alaska 99811
(907) 465-2500
questions@dced.state.ak.us

Program: Alaska Growth Capital

Description: Is a commercial lending institution originally capitalized by the state. It provides high-risk loans mainly to minority-owned and technology companies. Investments in early-stage companies range from \$100,000 to \$10 million. Funds can be used to finance any operational purpose.

Funding: Variable

Program: Access to the Future

Description: Is an economic development initiative that seeks to coordinate state and federal resources to enhance Alaska's economy. Not focused on technology or technology-based business.

History: Bonding program approved by voters in 2002

Funding: \$1 million in the 2005 budget for Biological and Computational Sciences Center at the University of Alaska Fairbanks.

-ARIZONA-

Contact: Sandra Watson, Director of the Governors Council on Innovation
Arizona Department of Commerce
1700 W. Washington St., Suite 220
Phoenix, Arizona 85007
(602) 771-1215
sandraw@azcommerce.com

Program: Arizona Disease Control Research Commission
Contact: Dawn Schroeder, Executive Director
15 S. 15th Avenue, Suite 103-A
Phoenix, Arizona 85007
Phone: (602) 542-1028

Description: Advances medical research by contracting with researchers to carry out peer-reviewed scientific projects within Arizona. The Commission oversees the projects to assure compliance. Projects are funded in the following area:
Epidemiology and diagnosis
Formulation of cures
Medically accepted treatments
Prevention of disease (including drug discovery and development)

Funding: \$11.5 million annually

Program: Arizona Technology Enterprises, LLC
Contact: Peter Slate
Arizona Technology Enterprises
699 S. Mill Avenue, Suite 601
Tempe, Arizona 85281
Phone: (480) 965-5787

Description: Is a technology transfer arm of Arizona State University and Northern University of Arizona. It actively assesses and markets inventions from these two universities. It also manages the ASU Innovation Fund which provides grants of \$25,000 to \$50,000 for proof-of-concept activities.

History: Fund was established in 2004

Funding: \$500,000 initial seed fund

Program: Small Business Opportunity Program
Contact: Sandra Watson
Arizona Department of Commerce
1700 W. Washington Street, Suite 600
Phoenix, Arizona 85007
(602) 771-1215

Description: Provides tax credits to qualified angel investors investing in qualified small businesses, specifically eligible technology companies.

History: Program becomes effective July 2006

Funding: \$20 million in tax credits

Program: Commerce and Economic Commission
Contact: Lisa Danka
Arizona Department of Commerce
1700 W. Washington Street, Suite 600
Phoenix, Arizona 85007
(602) 771-1165

Description: Provides grants and loans for strategic economic initiatives, companies and non-profit organizations.

History: Established in 1989

Funding: \$1 million annually

-ARKANSAS-

Contact: John Ahlen, President
Arkansas Science and Technology Authority
423 Main Street, Suite 200
Little Rock, Arkansas 72201
(501) 683-4400
john.ahlen@arkansas.gov

Program: Arkansas Bioscience Institute

Description: The Tobacco Settlement Act makes available funds from the Legislature according to institutional priorities. The ABI board serves to coordinate these initiatives and target them to the economic development priorities of the state.

Funding: \$13 million per year is focused on research initiatives

Program: Arkansas Institutional Fund

Description: A tax credit fund of funds that is available for investment in venture capital funds that office in or focus on Arkansas venture opportunities

History Arkansas Venture Capital Investment Act of 2001 authorized this fund

Funding: \$70 million

Program: Arkansas Science and Technology Authority

Description: Provides repayable grants of up to \$50,000 for technology commercialization research to eligible applicants (companies, universities or inventors). The authority also provides \$3500 for transferring a technology from a university to an Arkansas based businesses leading to a SBIR grant application. In addition one or two seed level venture loans of up to \$500,000 are available annually

Funding: \$100,000 annual appropriation with a \$2 million balance on the loan fund

-CALIFORNIA-

Contact: Jeff Newman, Technology and Commerce Partnership Manager
California Business, Transportation and Housing Agency
California Economic Development Program
7080 Hollywood Boulevard, Suite 900
Hollywood, California 90028
(626) 422-5581
jnewman@commerce.ca.gov

Program: UC Industry/University Cooperative Research Program

Description: Offers challenge grants of up to \$250,000 annually for up to 4 years to UC faculty conducting research in partnership with a California company, which must match 1:1. Seven program areas are funded

Funding: \$20 million per year

Program: CALPERS Pension Fund - Venture Capital Allocation

Description: CALPERS pension fund has encouraged California-based venture partnerships to compete to manage a share of a set aside from the fund's venture capital allocation.

Funding: \$450 million targeted to Life Sciences

-COLORADO-

Contact: Christine Shappard
Colorado Office of Economic Development and International Trade
Office of Innovation and Technology
1625 Broadway, Suite 1700
Denver, Colorado 80202
(303) 892-3850
Christine.shappard@state.co.us

Program: Colorado State University Innovation Fund

Description: The University has created a fund to support early commercialization of promising technologies that emerge from the work of their faculty. Grants for up to \$20,000 are awarded for promising opportunities (\$100K avail from Technology Transfer and \$100K from the Business School). Gary Amato, Director of Technology Transfer (907) 482-2916
gary.amato@csurf.colostate.edu.

Funding: \$200 K one time money

Program: University of Colorado Proof of Concept Fund

Description: Starting in the fall of 2004, ULEHI initiated the POC program to provide funds to support development and validation of promising early-stage CU technologies. These funds, which are provided in the form of a \$100,000 convertible loan, are awarded on a competitive basis in the fall and spring with the involvement of an outside panel of venture capitalists. In fall 2004 two CU start-ups won POC investment awards; three received investment awards in spring 2005. David Allen, Associate VP for Technology Transfer (303) 735-1688 David.Allen@cu.edu.

Funding: \$500K to date

Program: Colorado Venture Capital Authority

Description: The legislature created this authority and transferred funds from the existing CAPCO program for investment in venture capital funds. The legislation requires that the funds be used to provide seed and early stage capital (25% rural and 25% urban distressed). A fund manager was hired in May and the fund is now ready to make investments

History: Legislation was enacted in March 2004

Funding: \$50 million

-CONNECTICUT-

Contact: Nancy Rion, Director Technology Initiatives
Connecticut Innovations
999 West Street
Rocky Hill, Connecticut 06067
(860) 563-5851
Nancy.rion@ctinnovations.com

Program: Connecticut Innovation's Yankee Ingenuity Technology Competition

Description: This initiative's purpose is to accelerate innovation in Connecticut. The program makes awards to collaborations between Connecticut colleges and universities and industry for the development and commercialization of cutting edge technology projects. It funds up to \$300,000 per project.

Funding: \$3 million per year

Program: Eli Whitney Fund

Description: This fund is Connecticut's primary investment fund aimed at strengthening the state's high-technology environment by providing entrepreneurs with the capital and strategic guidance they need to start and build successful Connecticut businesses. Building off strengths in the state the fund focuses on information technology, bioscience, photonics (applied optics), energy and environmental systems. Investments range from \$500,000 to \$2 million and are made on the initial round

History: Began in 1997

Funding: \$133 million total

Program: Connecticut BioSeed Fund

Description: This fund is designed to provide gap financing resources for very early-stage biotechnology enterprises. Initial investments range up to \$500,000.

Funding: \$5 million total

-DELAWARE-

Contact: J. Michael Bowman, President
Delaware Technology Park
15 Innovation Way, Suite 103
Newark, Delaware 19711
(302) 452-1123
mike.bowman@deltechpark.org

Program: Delaware Innovation Fund

Description: Nonprofit seed fund capitalized by the state. Investments include a demonstration level (\$25-\$50K) and up to \$500,000 for commercialization. The fund has six technology focus areas including analytical instruments and advance/specialty materials.

History: Began in 1997 with \$5 million

Funding: \$10 million total from State plus \$20 million from private sources

Program: Delaware Research Partnership Matching Grants

Description: Provides up to \$300K to faculty/industry partners. Requires a 2:1 match from industry partner.

Funding: Currently dormant

Program: Delaware Life Sciences Institute Park

Description: State allocation matched by the university has brought \$70 million in Federal research grants and \$20 million in private grants

Funding: \$15 million total

Program: Fraunhofer USA Centers of Excellence

Description: Two centers have been located in Delaware with funding from both the state and Fraunhofer.

Center for Molecular Biotechnology
Center for Manufacturing and Advanced Materials

Funding: \$6 million from Delaware and \$10 million from Fraunhofer

-FLORIDA-

Contact: John B. Ray, Director, Business Sector Development
Enterprise Florida
The Atrium Building, Suite 201
325 John Knox Road
Tallahassee, Florida 32303
(850) 922-8784
jray@eflorida.com

Program: Scripps Florida Biotech Research Institute

Description: Of the \$310 million being supplied to Scripps \$50 million will go for salaries and equipment for research scientists.

History: Funding now in place

Funding: \$50 million for first seven years

Program: Emerging Technology Commission

Description: This commission was established in the Governors Executive Office to guide the creation of university-based centers of excellence. The centers are to conduct research, technology transfer, faculty recruitment and commercialization. Requires tight industry collaboration.

Regenerative Health Biotechnology Center
Biomedical and Marine Biotechnology Center
Photonics Center

History: Began 2003

Funding: \$30 million total - \$10 million each

Program: Industry Matching Research Program

Description: Makes between 10 and 25 awards in 16 eligible technology areas. Grants are matching funds with industry. Administered by the Florida High Tech Corridor Council

Funding: \$2 million available annually

Program: Florida State University Foundation Proof of Concept Programs

Description: Offers grants or loans of \$25,000 to \$50,000 to faculty for pre-commercial proof of concept projects.

Funding:

Program: Johnnie B. Byrd Sr. Alzheimer's Research Center

Description: This is a statewide center that makes grants for research to find cures for Alzheimer's Disease and other neurodegenerative diseases.

History: First grants were made in 2004

Funding: \$1.8 million in 2004

-GEORGIA-

Contact: Mike Cassidy, President
Georgia Research Alliance
50 Hurt Plaza, Suite 980
Atlanta, Georgia 30303
(404) 332-9770
mcassidy@gra.org

Program: GRA Innovation Fund

Description: This program supports technology development projects in the biosciences, advanced computing and communications, nanotechnology and advanced materials. The program is open to research faculty from GRA affiliated universities who are working in partnership with Georgia companies.

History: \$2.7 million in state funds was awarded in 2004 to support projects that were in partnership with 38 companies

Funding: \$3 million for 2005

Program: VentureLab

Description: This program guides faculty members through the various stages of technology development so their ideas advance to the stage of company formation. VentureLab programs are in place at the Georgia Institute of Technology, the University of Georgia, Georgia State University, Emory University, and the Medical College of Georgia. Stephen Flemming (404) 385-8360 sflemming@atdc.org.

History: \$1 million has benefited 16 new companies since its inception 2 years ago.

Funding: \$1 million additional was awarded for 2005

Program: Georgia Seed Capital Fund

Description: Managed by the Advance Technology Development Center this fund provides seed funding to early-stage technology firms. Maximum investment is \$1 million per company.

Funding: \$8 million

-HAWAII-

Contact: Dr. Philip Bossert, Executive Director
Hawaii High Technology Development Corp.
Manoa Innovation Center Suite 100
2800 Woodlawn Dr.
Honolulu, Hawaii 96822
(808) 539-3806
pbossert@htdc.org

Program: Accelerated Research Commercialization Grants

Description: The University of Hawaii awards grants of up to \$75,000 to cover up to 50% of the projects costs for joint applied research conducted in partnership with a Hawaii company.

Funding: \$225,000 was awarded in 2003

Program: Hawaii Strategic Development Corporation

Description: This organization is the financing arm of the states technology development program. It has invested in seven venture capital companies including five early or seed stage funds and one fund of funds

Funding: \$13.5 million total

Program: Act 221

Description: This legislation provides a 100% tax credit over 5 years for cash invested in qualified high technology businesses. The limit is \$2 million annually per qualified business. Credits can be carried forward.

Funding: \$65 million claimed to date (Started 2001); \$2 million in tax credits annually

-IDAHO-

Contact: Jeff Viano, Science and Technology Specialist
Idaho Department of Commerce
700 W. State St.
Boise, Idaho 83720-0093
(208) 334-2470
jeff.viano@cl.idaho.gov

Program: Office of Science and Technology

Description: The Governor has created the Office of Science and Technology to oversee the implementation of a statewide strategy that was developed by the Governor's Advisory Council.

History: Formed in January, 2004

Funding: \$250,000 annual funding

Program: Idaho TechConnect

Description: Idaho TechConnect is the State of Idaho's only public/private organization focusing solely on technology, its development, transfer, commercialization and impact on the state's economy. TechConnect pursues its mission by: 1.) Supporting research and development; 2.) Facilitating technology transfer and commercialization; 3.) Stimulating seed capital investment; and 4.) Encouraging economic competitiveness.

Idaho TechConnect operates three regionally based offices – North, South and East. A fourth office, South, is planned for late 2005/early 2006. The organization is governed by a 15-person Board of Directors that are primarily from the private sector. Each regional office has a Regional Advisory Board.

History: 2002 – TechConnect East opens with funding from BBWI, RDA-Community Reuse Organization(CRO), Bannock Development
2003 – TechConnect North opens part-time office at U of I Research Park with funding from BBWI
2003 – TechConnect West opens at TECenter at BSU West Campus with funding from BBWI and ISBDC.
2005/2006 – TechConnect South planned.
TechConnect rechartered to Idaho TechConnect and interim Board of Directors selected (June).

Funding: Initial funding from BBWI, Inc. (INEL Laboratory Contractor), Regional Development Alliance and Bannock Development Corporation totaling approximately \$150,000 in 2002 and grew to \$230,000 in 2003 to present. Additional funding from Governor's Office and the Idaho Department of Commerce and Labor of \$60,000 from 2003 through present.

Contact: Idaho TechConnect
Ray Barnes, Chairman, Board of Directors
(208) 526-1127
ray.barnes@inl.gov

TechConnect East
Bill Sellers
(208) 523-9898
wts@iictr.com

TechConnect North
Hank Artis
(208) 262-2039
hpartis@juno.com

TechConnect South
Rick Ritter
(208) 426-6613
ritter@boisestate.edu

-ILLINOIS-

Contact: Scott Henkel, Technology Specialist
Illinois Department of Commerce and Economic Opportunity
Bureau of Technology and Industrial Competitiveness
100 W. Randolph St., Suite 3-400
Chicago, Illinois 60601
(217) 557-6880
shenkel@ildceo.net

Program: State Matching Grant Program

Description: Offered by the Illinois Board of Higher Education provides funding to match merit based federal grants and contracts.

Funding: \$4.5 million for 2004

Program: Institute for Genomic Biology

Description: New interdisciplinary research facility located at University of Illinois at Urbana-Champaign.

Funding: \$3.2 million in research support

Program: Council for Food and Agricultural Research

Description: Interdisciplinary organization funded by the Illinois Department of Agriculture. It provides research funding to the University of Illinois and other universities around the state.

Funding: \$3 million for 2003

Program: Technology Development Bridge

Description: Provides investments in early stage companies as co-investments with accredited early stage private investors.

Funding: Will invest \$150 to \$300,000

Program: Illinois Technology Enterprise Centers

Description: Eight regionally-based management and technical assistance centers for entrepreneurs. They help them find pre-seed, seed, and early-stage financing from various sources. These centers are mostly part of universities but their services are not restricted to university spin-off companies.

Funding: The state has supplied \$3 million in financing and several of the centers have the capability to make pre-seed investments of \$20-\$25,000.

Program: Illinois Ventures, LLC

Description: The University of Illinois System created this wholly-owned company funded with special state and institutional funds that will work with the technology transfer offices of both Urbana-Champaign and Chicago. The board of managers is mostly active venture capitalists. Its main focus is organizing companies and connecting them to private sources of capital, but it also has an associated seed stage investment fund called the Illinois Emerging Technologies Fund.

Funding: \$12 million (can make investments of up to \$175,000 in convertible debt)

-INDIANA-

Contact: Patricia Miller, CEO/ Sec of Commerce
Indiana Economic Development Corporation
One North Capitol, Suite 700
Indianapolis, Indiana 46204
(317) 232-8800
dmoorton@iedc.in.gov

Program: 21st Century Research and Technology Fund

Description: Makes strategic awards to R & D programs including centers of excellence. The overall goals of the Fund are to increase federal and private R& D funding to Indiana universities, and to encourage innovation and cooperation, to diversify the state's economy and to stimulate commercialization. The Fund also matches SBIR awards (\$75 K for Phase I and \$25 K for Phase II)

Funded Centers of Excellence include:

+ Protein Center of Excellence – offers tools as a service to corporate and academic participants

Funding: Has made 85 awards totaling more than \$110 million in the last four years

Program: Trask Venture Fund

Description: Purdue Research Foundation's internally managed pre-seed financing.
\$100K Technology Innovation Awards – to help with patents
\$250K to help spin out companies

Funding: Variable

Program: Indiana Future Fund

Description: A “fund of funds” that will invest in both regional and national funds that agrees to establish an Indiana presence. State and private investors have created the fund. The investment strategy is as follows:

60% of investments placed through Indiana focused or based funds

70% towards early or seed stage companies

60% must be invested in Indiana-based companies

60% of investments need to be in the life sciences

Funding: \$72 million

-IOWA-

Contact: Jeff Rossate, Division Administrator for Business Development
Iowa Department of Economic Development
200 East Grand Avenue
Des Moines, Iowa 50309-1819
(515) 242-4700
jeff.rossate@ided.state.ia.us

Karen Merrick, Biosciences Coordinator
(515) 242-4709
Karen.merrick@iowalifechanging.com

Program: Centers of Excellence

Description: The universities in Iowa have a number of designated Centers of Excellence (see below), however only the two institutes mentioned in the funding section receive funding for research.

Funding: \$1 million annually to the Plant Sciences Institute
\$300,000 Institute for Physical Research and Technology

Program: Technology Commercialization Acceleration Program

Description: This program was established from funding from the Department of Economic Development and Iowa State University to focus on commercializing university technology

Funding: \$5 million

Program: Iowa Values Fund

Description: A major portion of this \$503 million funding initiative is being utilized for direct business development and financing assistance.

History: Legislation enacted in 2001 extends through 2010

Funding: \$35 million

Program: Iowa Fund of Funds

Description: Being organized as a private, for-profit limited partnership to make investment in private venture capital funds. A venture fund must commit to consider equity investment in businesses in Iowa and to maintain a physical presence in Iowa.

History: Enacted 2002

Funding: \$100 million in tax credits

Program: ISU Research Foundation

Description: Fund for proof of concept and prototype development

History: 1998

Funding: \$200K per year

-KANSAS-

Contact: Mr. Tracy Taylor, President and CEO
Kansas Technology Enterprise Corporation
214 SW Sixth Street, 1st floor
Topeka, Kansas 66603-3719
(785) 296-5272
ttaylor@ktec.com

Program: KTEC Centers of Excellence

Description: Higuchi Biosciences Center
Information and Telecommunications Technology Center
Advanced Manufacturing Institute
National Institute for Aviation Research
Kansas Polymer Research Center

History: Began in 1993

Funding: Total of \$4.5 million annually with a total of \$60 million in grants to these five centers since inception

Program: Technology Commercialization Seed Fund

Description: Makes equity investments up to \$250,000 provided they are matched by other private investors

Funding: Originally funded with \$4 million

-KENTUCKY-

Contact: Deborah Clayton, Commissioner
Office of the New Economy
702 Capitol Avenue, Suite 256
Frankfort, Kentucky 40601
(502) 564-0531
deborah.clayton@ky.gov

Program: Kentucky Science and Engineering Foundation R&D Excellence Program

Description: This program makes awards to university faculty in five research priority areas. Since 2001, \$4.1 million in state funds have been invested in 84 research projects at five universities.

History: Began in 2001

Funding: \$4.1 MM

Program: Commercialization Investment Funds

Description: The state has invested \$10 million in a series of funds aimed at promoting startup companies. Only university based commercialization projects are able to get funding through this program.

Rural Innovation Fund - invests up to \$100K over 2 years

R&D Voucher Fund – invests up to \$200K over 2 years to develop prototype and commercial products – 51% must be spent in with one or more of Kentucky’s universities.

Kentucky Commercialization Fund – invests up to \$225K over 3 years in university-based technology commercialization.

History: Began in 2001

Funding: One time allocation of \$10 million

Program: Commonwealth Seed Capital, LLC

Description: The State has invested \$11.1 million for investing in technology companies in Kentucky (a \$30 million private match was also secured). CSC is acting investing in other funds that invest in Kentucky, but requires that they raise a minimum of three times the CSC investment.

History: Began in 2001

Funding: \$11.1 million in state funding

-LOUISIANA-

Contact: Bob Fudickar, Technology Industry Director
Louisiana Economic Development
P.O. Box 94185
Baton Rouge, Louisiana 70804
(225) 342-3000
fudickar@la.gov

Program: Louisiana: Vision 2020

Description: The State of Louisiana adopted this long-term strategic plan in 2000, which it continues to implement under Governor Blanco's leadership. Fifteen industry sectors are targeted for retaining, recruiting and expanding industries based on historic and emerging strengths.

Web site: <http://vision2020.louisiana.gov>

History: Adopted in 2000, updated in 2003. Annual action plans by a standing private-sector-led Council have made annual recommendations.

Funding: Variable – see below

Program: LSU Research and Technology Foundation

Description: Established to develop business partnerships between universities and industry.

History: Established in 2002

Funding: \$5.75 million for organizational funding and seed capital for an early stage venture capital fund, which has now been established and capitalized at \$30 million.

Program: Louisiana Board of Regents Support Fund

Description: A fund created with the interest earned from the educational trust fund, originally established with dollars from oil and gas funds. These funds are awarded on a competitive basis to build the state's research capability. The following programs are supported:

Research Competitiveness Program

Industrial Ties Research Program

Endowed Chairs for Eminent Scholars Program

Graduate Fellows Program

Undergraduate Enhancement Program

Funding: \$20 to \$25 million annually

Program: Neurobiotechnology Program of Louisiana

Description: Joint venture between LSU and Tulane University to focus on Alzheimer's disease, stroke and head injury.

Funding: \$2.5 million in 2002 and \$3 million in 2003

Program: Louisiana Cancer Research Consortium

Description: A joint venture between LSU and Tulane Universities

Web site: <http://www.lacrc.net/>

History: Established in 2002

Funding: \$10.5 million annually from tobacco tax

-MAINE-

Contact: Betsy Biemann, Director
Maine Technology Institute
2E Mechanic Street
Gardiner, Maine 04345
(207) 582-4790 x1
bbiemann@mainetechnology.org

Program: Maine Technology Institute

Description: MTI supports R&D leading to the commercialization of new products and services in the state's seven targeted technology sectors. MTI accomplishes its goals by cost-sharing R&D and cluster enhancement projects with private companies through several competitive award programs and by helping firms access federal funds for their R&D projects. Since inception, MTI has awarded over \$26 million, matched by over \$40 million.

Programs administered by MTI include:

Seed Grants – 516 grants of up to \$10,000 each
Development Awards – 109 awards of up to \$500,000 each
Accelerated Commercialization Fund - \$1 million committed
Cluster Enhancement Awards – 31 grants of up to \$200,000 each
Phase 0 SBIR application grants – 17 grants of up to \$5,000 each

History: MTI was established by the Legislature in 1999

Funding: 2000 - \$3.3 million
2001 - \$6.4 million
2002 - \$5.4 million
2003 - \$4.9 million
2004 - \$5.5 million
2005 - \$5.5 million
2006 - \$5.48 million

Program: Biomedical Research Fund

Description: Awards are made by a board through MTI to non-profit research institutions for successful peer reviewed funding received from other sources.

History: Began in 2000

Funding: \$34.5 million allocated from General Fund and Bond Funds over the life of the program to date. \$8 million in bond funds proposed for FY 2006 will go to the public in a referendum in the fall, 2006.

Program: Marine Infrastructure and Technology Fund

Description: Provides competitive grants to support capital infrastructure and equipment that stimulates marine research and enhances research capacity and productivity.

History: Began in 2002

Funding: Capitalized by \$2 million of bond funds. \$4 million in bond funds proposed for FY 2006 will go to the public in a referendum in the fall, 2006.

Program: Small Enterprise Growth Fund

Description: Independent entity invests up to \$500,000 of capital directly in companies that demonstrate potential for high growth and public benefit. Qualifying businesses must be engaged in at least one of the following: marine science, biotechnology, manufacturing, software development, out of state export, environmental services or financial/insurance services.

Funding: Capitalized by an \$8 million in bond funds. \$1 million in bond funds proposed for FY 2006 will go to the public in a referendum in the fall, 2006.

-MARYLAND-

Contact: Dr. Larry Mahan
Maryland Department of Business and Economic Development
217 E. Redwood St.
Baltimore, Maryland 21202
(410) 767-6371
LMahan@ChooseMaryland.org

Phillip Singerman
Maryland TEDCO
5575 Sterrett Place, Suite 240
Columbia, Maryland 21044
(410) 740-9442
rwinsky@marylandtedco.org

Program: University of Maryland Biotechnology Institute

Description: This institute is an independent component of the University System of Maryland. It has five separate centers of excellence.
Center for Advanced Research in Biotechnology
Center for Biosystems Research
Center for Marine Biotechnology
Medical Biotechnology Center
Institute of Human Virology

History: Began in 1985 to conduct research and training and provide expertise and facilities to advance the development of the state's biotech sector

Funding: \$14.9 million in FY 2004

Program: Maryland Industrial Partnerships

Description: This program provides matching funds for university based research projects that help companies develop new products. The funds are awarded on a competitive basis with a maximum award of \$100K for up to 2 years.

Funding: \$1.35 million for FY 2004

Program: Maryland Technology Development Corporation (TEDCO)

Description: TEDCO has several investment programs to help develop, commercialize and deploy technology in the state.
University Technology Development Fund
Federal Laboratory Partnership Program
Maryland Technology Transfer Fund

Funding: \$2 million for FY 2004

Program: Maryland Venture Fund

Description: The state has provided investment in private venture capital limited partnerships with the understanding that each partnership will make its best efforts to invest in Maryland high-technology start-ups. The goal of these investments is to stimulate additional venture capital activity in the state.

History: Began in 1995 and again in 2000

Funding: A total of \$16.5 million has been invested

Description: In addition to the investments in venture capital companies the Maryland Venture Fund has a budget set annually by the legislature to invest \$4.5 to \$8 million through the following two programs:

Challenge Investment Program – start up investments up to \$150K

Enterprise Investment Fund – direct investments of \$150 to \$500K

History: Began in 1994

Funding: Variable from year to year, \$4.5 million to \$8 million

-MASSACHUSETTS-

Contact: Eric Schoenfeld
Massachusetts Office of Business Development
1 Ashburton Place, 21st floor
Boston, Massachusetts 02118
(617) 788-3670
eric.schoenfeld@state.ma.us

Program: John Adams Innovation Institute

Description: In 2003 the state legislature gave a \$15 million one-time allocation to be spent over the next three to five years for funding regional technology growth initiatives.

History: New program in 2003

Funding: \$15 million to be spent over 3 to 5 years and managed by the Massachusetts Technology Collaborative

Program: Centers of Excellence

Description: Three centers of excellence planned in biotechnology, medical devices and nanotechnology.

History: New program in 2003

Funding: One time allocation of \$20 million to be spent over 3 to 5 years and managed by the Massachusetts Technology Collaborative.

Program: Deshpande Center for Technological Innovation

Description: A gift to MIT to provide grants of up to \$250,000 for commercialization research on faculty inventions that are targeted for licensing or spin-off.

History: New program

Funding: \$20 million endowment

-MICHIGAN-

Contact: Jeff Mason, Senior Vice President
Technology Development
Michigan Economic Development Corporation
300 N. Washington Square
Lansing, Michigan 48913
(517) 373-9808
masonj@michigan.org

Program: Angel Networks

Description: Support for the administrative operations of three regional networks of high net-worth individuals who invest in early stage technology businesses.

Funding: \$60,000 annually

Program: Biosciences Research Commercialization Center

Description: This Center located at Western Michigan University is designed to take industry projects from preclinical discovery to production and distribution, all within one site.

Funding: \$10 million

Program: Core Technology Alliance

Description: Six centers of excellence providing equipment and facilities to enhance life sciences research and product development throughout the state.

Funding: \$65 million

Program: Emerging Business Fund

Description: SBIR/STTR matching grants for Michigan companies in the industries of automotive, life sciences and homeland security to increase their success of moving through the SBIR/STTR process.

Funding: \$1 million

Program: Michigan Technology Tri-Corridor

Description: Program to build technology research capability and commercialization successes throughout the state. Categories of funding include basic research, applied research and commercialization. Tech sectors include: life sciences, automotive technologies and homeland security.

Funding: Annual funding for 2005 was \$30 million

Program: Pre-Seed Funds

Description: Planning is underway for regional pre-seed funds designed to prepare a technology company/idea for follow on financing from banks, angel groups or venture capital firms.

Funding: Typical awards will be in the range of \$50,000 to \$100,000 per technology project, with a maximum of \$250,000 per technology

Program: PeerSpectives

Description: CEO scholarships to attend facilitated peer-to-peer learning networks for second stage companies in partnership with the Edward Lowe Foundation and the Michigan Small Business & Technology Development Center network.

Funding: \$50,000 annually

Program: SmartZone Business Accelerators

Description: Seven locations throughout the state that offer young technology companies a variety of services and programs to assist in their growth and development including: physical incubators, shared equipment, management mentoring, access to capital, and connections to university research and talent.

Funding: \$640,000 annually

Program: Tech Counselors

Description: Grant to the Michigan Small Business & Technology Development Center network to provide customized business assistance to technology companies.

Funding: \$320,000

Program: University Award for Commercialization Excellence

Description: Competitive cash awards program designed to inspire and reward two public university researchers and their teams who have successfully taken new technologies from the lab into the commercial marketplace.

Funding: \$50,000 annually

Program: University Federal Matching Grants

Description: Matching grants to public universities that leverage federal dollars to development research centers with a focus on commercialization.

Funding: \$1 million annually

Program: Venture Michigan Fund

Description: Fund-of-funds backed by contingent, transferable tax vouchers that will invest up to \$150 million in venture capital firms with a focus on Michigan early stage technology companies.

Funding: \$150 million

-MINNESOTA-

Contact: Gene Goddard
Minnesota Department of Employment and Economic Development
1st National Bank Building, Suite E200, 332 Minnesota Street
St. Paul, Minnesota 55101-1351
(651) 296-7102
gene.goddard@state.mn.us

Program: Minnesota Partnership for Biotechnology and Medical Genomics

Description: This is a partnership between Mayo Clinic and the University of Minnesota to advance medical genomics applications. The State is supplying bonding for new research facilities and funding for basic research that is matched by funds from both institutions. Website: www.mayouminnesotapartnership.org

History: Began in 2003

Funding: Initial funding of \$15 million that continues annually for 5 years

Program: Initiative for Renewable Energy and the Environment

Description: Provide leadership in research and development of environmentally sound production, distribution, and use of energy, chemicals, and materials from renewable resources; Create jobs by transferring technologies into practical outcomes for industry and communities; Support the goal of moving toward an economy based on hydrogen and other renewables; Utilize bio-based and other renewable sources as a substitute for fossil fuel-based energy, chemicals, and materials. Website: www.iree.umn.edu .

History: Began is 2003

Funding: Initial funding of \$10 million with \$2 million additional for the next five years

Program: Minnesota Investment Fund

Description: Awards grants to local unit of government to provide loans to expanding businesses. The Fund focuses on industrial, manufacturing, and technology related industries. The maximum amount is \$500,000 per grant. Fifty percent of project costs must be privately financed.

Funding: \$4 million annually

-MISSISSIPPI-

Contact: Tony Jeff
Mississippi Technology Alliance
134 Market Ridge Drive
Jackson, Mississippi 39157
(601) 960-3636
tjeff@technologyalliance.ms

Program: Mississippi Technology Alliance

Description: Is a 501(c)(3) corporation whose mission is to champion science and technology economic development in the State. The Alliance works with the Mississippi Development Authority to encourage growth in the states technology clusters which include: automotive, polymers and plastics, forest products, marine science remote sensing/geomatics, communications, information technology and alternative energy. Two centers have been created that are administered by the Alliance:

Franklin Furniture Center at Mississippi State University is researching wood fiber for building products and has received approximately \$ 1 million

Mississippi Alternative Energy Enterprise was created in 2002 and receives approximately \$850,000 per year. They have a number of projects underway including biodiesel, ethanol and poultry litter to produce energy

History: Created in 2000

Funding: Approximately \$1.5 million per year

-MISSOURI-

Contact: Joseph Driskill, Executive Director
Missouri Technology Corporation
P.O. Box 2137
Jefferson City, Missouri 65102
(573) 659-4636
joe.driskill@missouritechnology.com

Program: Missouri Technology Corporation

Description: A private not-for-profit corporation with a full time Executive Director. The MTC serves as a focal point for new state policies that would create better ways for Missouri businesses to interface with universities in order to solve technical and productivity issues; bring more research funding and research emphasis to Missouri universities and create and manage a better system for transferring intellectual property.

History: Established in 1994

Program: Missouri Innovation Centers

Description: Five centers positioned around the state offer a full range of management and technical assistance to start up and early stage technology-based businesses. Services include market research and strategies; technology assessment; business planning; financial packaging; research and development ; business management; patent and licensing consulting; preliminary patent searches; and prototype development. The Missouri Technology Corporation reviews the activities and outcomes of the Centers and makes funding recommendations.

Funding: Combined budget of \$1.164 million per year

Program: Life Sciences Trust Fund

Description: The Legislature has 20% of approximately \$38 million per year of the tobacco settlement funds into a program that will begin in 2007 aimed at technology transfer and commercialization activities. Starting in 2007, public and non profit research institutions in Missouri may submit research grant applications to a seven-member board that will manage the fund.

History: Enacted in 2003

Funding: \$7.6 million per year will be available beginning in 2007

-MONTANA-

Contact: Dave Desch, Executive Director
Montana Board of Research and Commercialization Technology
P.O. Box 20000501
Helena, Montana 59620-0501
(406) 841-2760
ddesch@state.mt.us

Program: Montana Board of Research and Commercialization

Description: This Board operates as a unit of the Department of Commerce and it functions to award grants or make loans for university/industry collaborations with a clear path to commercialization in several fields, including biotechnology, chemistry and production or value-added agriculture. Awards range up to \$500,000 for 2 years (the average award is about \$100,000). Approximately 80 projects through 2005.

History: Began 2000 - \$20 million invested to date

Funding: \$3.5 million annually

-NEBRASKA-

Contact: Darrell Ullman, Development Consultant
Nebraska Department of Economic Development
301 Centennial Mall South
Lincoln, Nebraska 68509
(402) 471-3786
dullman@neded.org

Program: Invest Nebraska Corporation

Description: This is a state funded nonprofit organization that provides mentoring to start-ups as they prepare to present to angel or venture investors.

Funding: \$500K

-NEVADA-

Contact: Alison Estee, Director, Center for Entrepreneurship & Technology
Nevada Commission on Economic Development
108 E. Proctor Street
Carson City, Nevada 89701-4240
(530) 582-0263
Aestee@bizopp.state.nv.us

Program: Applied Research Initiative

Description: The Vice President of Research for the University of Nevada Reno maintains an internal fund to grant up to \$50,000 for one year, but with the requirement that they be matched with Federal or industrial funds.

History:

Funding: Variable

-NEW HAMPSHIRE-

Contact: Stuart Arnett, Director
New Hampshire Resources and Economic Development Department
172 Pembroke Road.
P.O. Box 1856
Concord, New Hampshire 03302
(603) 271- 2341
sarnett@nheconomy.com

Program: New Hampshire Industrial Research Center

Contact: Robert Dalton, Director
New Hampshire Industrial Research Center
University of New Hampshire
Gregg Hall
Durham, New Hampshire 03824
(603) 862-0123 phone
(602) 862-0329 fax
Email: robert.dalton@unh.edu
Website: www.nhirc.unh.edu

Description: Matching grants are available to companies to help them develop new or improved products or processes. A qualifying company is matched up with professors, students and facilities from Dartmouth College or the University of New Hampshire and technical assistance is provided throughout the project.

History: The New Hampshire Legislature created the New Hampshire Industrial Research Center in 1991 to provide technical assistance to NH companies helping them grow, prosper and thereby create NH jobs. Its headquarters are at the University of New Hampshire in Durham and it works closely with Dartmouth College, and Dartmouth Medical School. It is funded by the State through the NH Department of Resources and Economic Development (DRED).

Funding: \$505,000 per year.

-NEW JERSEY-

Contact: Henry W. Kurz, Account Manager
New Jersey Commerce and Economic Growth Commission
P.O. Box 820
Trenton, New Jersey 08625
(609) 292-4350
henry.kurz@commerce.state.nj.us

Program: Stem Cell Research Institute

Description: The Governor has proposed \$6.5 million for stem cell research with a total of \$50 million over five years.

Funding: \$6.5 million committed in 2004

Program: New Jersey Commission on Science and Technology

Description: The Program receives \$5.5 million annually for R & D Excellence which allows for individual grants of \$500 to 800K annually for up to 5 years.

Funding: \$5.5 million per year

Program: Cancer Institute of New Jersey

Description: Beginning last year the Cancer Institute began receiving \$20 million and is scheduled to receive another \$20 million this year for cancer research.

Funding: \$20 million per year

-NEW MEXICO-

Contact: Ellen Veseth, Program Director, Office of Science and Technology
New Mexico Department of Economic Development
P.O. Box 20003
Sante Fe, New Mexico 87504
(505) 827-0281
Ellen.veseth@state.nm.us

Program: New Mexico Tobacco Revenue Oversight Committee

Description: Grants for \$3 million have been given for bio research and clinical trials.

History: A total of \$1.5 million was granted in 2004 and \$1.5 million has been given in 2005.

Funding: \$3 million over two years

Program: New Mexico Venture Capital Investment Program

Description: The Program allows the New Mexico State Investment Council to be a limited investor in venture capital funds provided the fund has an office in the state and that the funds assist emerging New Mexico companies. In 2003 the legislature added language that allowed them to take direct equity investments in companies as well. There is \$20 million available annually for investment. No fund can receive more than \$15 million and the State cannot own more than 50% of the fund.

Funding: \$20 million per year

Program: Microsystems and Nanotechnology Partnership (www.minatep.com)

Description: As a result of a statewide task force, a recommendation to fund these two areas with \$14 million over five years is now being considered.

Funding: Not yet funded

Program: Biotechnology Partnership (www.biotep.com)

Description: A similar initiative for advancing the biotech cluster in the state is requesting \$6 million over a four-year period.

Funding: Not yet funded

-NEW YORK-

Contact: Jim Denn, Director of Operations
NYS Office of Science, Technology and Academic Research
Empire State Development Corp.
30 So. Pearl Street, 7th floor
Albany, New York 12245
(518) 292-5700
jdenn@nystar.state.ny.us

Program: Centers of Excellence (CoEs)

Description: Each of five centers is funded between \$35 million and \$50 million over five years, which includes budget for capital improvements.
Center of Excellence in Bioinformatics and Life Sciences, Buffalo
Center of Excellence in Environmental and Energy Systems, Syracuse
Center of Excellence in Photonics and Microsystems, Greater Rochester
Center of Excellence in Nanoelectronics, Albany
Center of Excellence in Wireless & Information Technology, Stony Brook

Program: Centers of Advanced Technology (CATs)

Description: These 15 centers are funded by the New York State Office of Science, Technology and Academic Research (NYSTAR). They exist to encourage university/industry partnerships.
Center for Life Science Enterprise, Cornell University
Center for Advanced Biomedical and Bioengineering Technologies, University at Buffalo
Center for Advanced Technology in Photonics Application, City University of New York
Center for Advanced Ceramic Technologies, Alfred University
Center for Advanced Materials Processing, Clarkson University
Center for Advanced Information Management, Columbia University
Future Energy Systems, Rensselaer Polytechnic Institute
Center for Automation Technologies and Systems, Rensselaer Polytechnic Institute
Center for Advanced Technology in Telecommunications, Polytechnic University
Center for Advanced Technology in Medical Biotechnology, Stony Brook University
Integrated Electronics Engineering Center, Binghamton University
CASE Center, Syracuse University
Sensor CAT, Stony Brook University
Center for Advanced Technology for Electronic Imaging Systems, University at Rochester
Center for Advanced Technology in Nanomaterials and Nanoelectronics.

Funding: \$15 million per year total

Program: Technology Transfer Incentive Program

Description: One-time funding to run for up to two years for applied research matched 1:1 by a company within the state.

Funding: \$4 million

Program: James D. Watson Investigator Program

Description: To assist New York State's leading research institutions in recognizing, retaining and professionally developing early career scientists who demonstrate leadership potential in their field and research plans that are anticipated to enhance economic development in the state.

Funding: \$1.5 million

Program: Faculty Development Program

Description: To assist New York State's leading research institutions in recruiting and retaining distinguished faculty who will develop and commercialize technologies resulting in the development and expansion of New York's economy.

Funding: \$5.1 million

Program: Capital Facility Program

Description: To support strategically targeted initiatives that are likely to provide the next generation technology by establishing Strategically Targeted Academic Research (STAR) Centers and Advanced Research Centers (ARCs) as follows:

- Albany Medical College (ARC);
- Alfred University (ARC);
- Columbia University (STAR);
- Cornell University (ARC and STAR);
- Manhattan College (ARC);
- Mt. Sinai School of Medicine (ARC);
- New York Structural Biology Center (STAR);
- SUNY Buffalo (STAR);
- SUNY Stony Brook (STAR);

- Syracuse University (STAR);
- Rochester Institute of Technology (STAR); and
- University at Albany (STAR).

Funding: \$95 million

Program: New York State Science and Technology Law Center

Description: To be a statewide resource for New York’s Research Centers on technology-related legal issues. The NYSTAR-designated STLC is located at Syracuse University.

Funding: \$350,000

Program: College Applied Research and Technology Centers (CARTs)

Description: The CART Program is designed to: spur technology-based research and economic development in New York; promote research collaboration and innovation with New York businesses; promote workforce development; better leverage State funding with investments from the Federal government, industry, foundations, and not-for-profit organizations with an economic development mission; and increase competitiveness of New York companies. Two Centers have been designated:

- Center for Applied Research in Collaborative and On-Demand Computing (CCODC), Marist College; and
- The Center for Engineered Polymeric Materials; College of Staten Island.

Funding: \$1.5 million

-NORTH CAROLINA-

Contact: Monica Doss, President
North Carolina Center for Entrepreneurial Development
104 TW Alexander Drive
P.O. Box 13355
Research Triangle Park, North Carolina 27709
(919) 549-7500 x 122
mpdoss@cednc.org

Program: North Carolina Biotechnology Center

Description: The North Carolina Biotechnology Center receives funding through the state budget annual, much of which goes to support two research grant programs:

Multidisciplinary Research Grants – up to \$250,000 per project, supporting large-scale, multidisciplinary, multi-investigator projects

Academic Research Initiation Grants – up to \$55,000 for 18 month for individual investigators

The Center also makes loans to bioscience companies for \$25,000 and additionally for \$75,000 to \$150,000 for SBIR recipients.

History: Created in 1984

Funding: Approximately \$6 million per year

Program: Academy Centennial Fund

Description: Privately managed seed-stage venture investment fund capitalized exclusively by the 14 endowment foundations associated with North Carolina State. Companies receiving funds must be licensees, research sponsors or located on the Centennial Campus.

Funding: \$10 million initially – the fund manager has created two additional venture funds with in-state focus

-NORTH DAKOTA-

Contact: Randy Schwartz, Director, Manufacturing Extension Partnership
North Dakota Department of Economic Development and Finance
P.O. Box 2057
Bismarck, North Dakota 58502
(701) 328-5314
Justin Dever, Special Assistant to the Commissioner
North Dakota Department of Economic Development and Finance
P.O. Box 2057
Bismarck, North Dakota 58502
(701) 328-7258
jdever@state.nd.us
and Eddie Dunn, Vice Chancellor of Strategic Planning
North Dakota University System
(701) 231-8494

Program: Centers of Excellence

Description: In 2005 Governor John Hoeven proposed \$50 million to target technology sectors. Four centers were awarded \$9 million by the Legislature. Six new centers that have received a total of \$10 million in 2006 are currently going through the final approval process.

UND Center for Innovation - \$800,000 (2003)

NDSU Center for Technology Enterprises - \$1.25 (2003)

2005 Centers

National Center for Hydrogen Technology - \$2.5 million

Advanced Electronics Design and Manufacturing - \$3 million

Energy Center of Excellence - \$3 million

Dakota Center for Technology Optimized Agriculture - \$450,000

History: Created in 2003

Funding: \$20 million approved through 2006 with an additional \$30 million planned for 2007 -2009

Program: North Dakota Development Fund

Description: Is an existing debt and equity fund that received an investment from the state owned Bank of North Dakota to form an SBIC venture fund of \$20 million (new money authorized in 2003)

History: Has invested \$50 million in more than 300 companies since 1991

Funding: Current funding of \$5 million

Program: New Venture Capital Fund

Description: Provides up to \$300K investment in qualifying businesses with emphasis on commercialization of technologies that are developed within the North Dakota University System. Operated by the Bank of North Dakota

History: Authorized in 2001

Funding: \$20 million

-OHIO-

Contact: Marc Cloutier, Ph.D.
Ohio Department of Development
Technology Division
77 South High Street, 25th Floor
Columbus, Ohio 43215
(614) 466-0270
mcloutier@odod.state.oh.us

Program: Wright Center of Innovation

Description: Since 2003, five areas of focus have been selected for collaborations among Ohio higher education institutions, nonprofit research organizations, and Ohio companies in the areas of:

Advanced Materials

Center for Multifunctional Nanomaterials and Devices –
\$23 million

Ohio BioProducts Innovation Center - \$12.2 million

Bioscience

Center for Computational Medicine - \$28 million*

Center for Stem Cell and Regenerative Medicine - \$19.5 million*

Biomedical Structural, Functional and Molecular Imaging
Enterprise - \$17 million*

Atrial Fibrillation Innovation Center - \$23.2 million*

Power and Propulsion

Information Technology

Instruments, Controls and Electronics

(*Note that up to \$8 million of these grants come from the BRTT Fund)

History: Created in 2003

Funding: Capital Funds; \$40million available for 2006

Program: BRTT Partnership Program

Description: Provides grants to support biomedical and biotechnology research leading to Ohio commercialization. Projects are to be collaborations among Ohio higher education institutions, nonprofit research organizations and Ohio companies. The funding comes from Ohio's tobacco settlement dollars.

- Brain Neuromodulation Center \$7.9 million
- Comprehensive Program for the Prevention, Detection, and Treatment of Lung Cancer \$8.0 million
- Neurostimulation and Neuromodulation Partnership \$7.9 million
- Genetics of Gastrointestinal Cancer \$10.2 million
- Genome Research Infrastructure Partnership \$9.0 million
- Biomedical Informatics Synthesis Platform \$6.0 million
- Cardiovascular Bioengineering Enterprise \$6.5 million
- Commercialization of Immunotherapeutics for MS \$4.0 million
- Targeted Nanoparticles for Imaging and Therapeutics \$4.0 million
- Clinical Tissue Engineering Center \$4.0 million
- AMD Initiative for Prevention and Cure \$6.0 million

History Created in 2000 and first awards made in 2002.

Funding \$24 million for 2006

Program: Wright Projects

Description: Intended to support commercialization collaborations involving Ohio universities, other nonprofit research organizations, and Ohio companies. Collaborations are to be formed to further the near term commercialization of specific or platform technology or capability with significant, defined market opportunities.

History: Created in 2003; \$14.6 million awarded; nine recipients

Funding: \$10 million yearly

Program: Fuel Cell Initiative

History: \$6.4 million awarded; seven recipients

Description: Purpose is to stimulate the development and commercialization of fuel cells, fuel cell components, materials, manufacturing processes and directly related technologies by Ohio Companies.

Funding: \$5 million for 2006

Program: Ohio Research Commercialization Grant Program

Description: This fund was recently established to help finance commercialization and pilot production of technologies resulting from federal SBIR, STTR, ATP and other federal cooperative technology programs. It provides up to \$175,000 to emerging technology firms.

History: First grants in 2004; \$12.7 million awarded; fifteen recipients

Funding: \$2 million for 2006

Program: Pre-Seed Fund

Description: Provides assistance in the formation of early/seed venture capital funds.

History: First grants in 2004; \$18 million awarded; 19 portfolio companies

Funding: \$6 million for 2006

-OKLAHOMA-

Contact: Dan Davis, Executive Director
Office of Technology Development
660 Parrington Oval
Evans Hall, Room 201
Norman, Oklahoma 73019
(405) 325-3800
dgdavis@ou.edu

Program: Oklahoma Center for the Advancement of Science and Technology

Description: OCAST was created to support R & D, facilitate technology transfer and commercialization, stimulate seed capital investment and encourage manufacturing competitiveness.

History:

Funding: \$5 million for 2006 for Centers of Excellence

Program: Oklahoma Applied Research Support (OARS) Program

Description: This program was created to accelerate the development of technology that has potential for commercialization in Oklahoma. Eligible institutions include businesses, universities, and nonprofit research organizations for one to three year projects. Matching funds are required.

History:

Funding:

Program: Oklahoma Technology Commercialization Center (OTCC)

Description: This center is an OCAST initiative managed by i2E a not-for-profit private corporation. This organization assists inventors, researchers, and entrepreneurs in turning their technology innovations into business opportunities in the state. They provide a variety of services that bridge the lab bench into the marketplace.

Funding:

Program: Oklahoma Technology Business Finance Program

Description: Is funded by OCAST and administered by i2E and OTCC. It provides risk capital to start-up technology companies. Matching funds are required and average investments are \$100,000 to \$200,000.

Funding: \$900,000 annually

-OREGON-

Contact: Krissa Wrigley, Innovation and Technology Specialist
Oregon Department of Economic and Community Development
121 SW Salmon, Suite 205
Portland, Oregon 97204
(503) 229-6051
krissaw.wrigley@state.or.us

Program: Signature Research Centers

Description: Designated by the Oregon Innovation Council to maximize collaborative ventures among research institutions, private industry and the federal government. To date, one center has been designated: the Oregon Nanoscience and Microtechnologies Institute (ONAMI). ONAMI is a collaboration between Oregon's universities and the Pacific Northwest National Laboratory (PNNL) in Washington. Website: www.onami.us

Funding: To date, state investment of \$21 million. The 2005 Legislature allocated an additional \$7 million for research packages, tech transfer and IP protection related to commercialization.

Program: Oregon Growth Account (OGA)

Description: Created within the Education Stability Fund during the 1995 Legislative Session to earn returns for the Fund by making investments in, or providing seed capital for, emerging growth businesses in key industries, primarily in Oregon. In 2001, the Legislature merged the Oregon resource and Technology Development Account (ORTDA) into OGA, creating the Oregon Resource and Technology Development Sub-account (ORTDS). www.ost.state.or.us/

History: As set in statute, the Education Stability Fund receives 18 percent of Lottery proceeds. Of the Lottery proceeds placed in the Fund, 10 percent flow into the OGA.

Funding: Since the fund's inception in 1999, nearly \$50 million in capital has been committed, of which about \$23 million has been invested. Cash flow is about \$1.7 million per quarter.

Program: Oregon Investment Fund

Description: Established in 2003 to provide significant returns for Oregon pensioners and to encourage capital investment and small business growth. www.oregoninvestmentfund.com

Funding: \$100 million

Program: University Venture Fund

Description: Established by the 2005 Legislature. The goal of the University Venture Fund (Senate Bill 853) is to provide funding that will prove the commercialization of inventions, concepts, technologies, etc, integrate entrepreneurial education/development into the commercialization efforts, and return an income stream to the sponsoring universities. The Fund will provide grants for research and business concepts that have high commercial potential.

Funding: 100% tax credit for donations made to research designated universities within Oregon, with a limit of \$14 million.

Program: Open Technology Business Center (OTBC)

Description: Launched in 2005 with start-up funding from the city of Beaverton, OTBC helps start-up companies with Open technology products and services. The Center offers office space and conference facilities, and business development services including business plan assessments, and access to management and intellectual property expertise, and venture capital.

In June 2005, the state helped to fund a commercialization funnel within OTBC to identify the technologies and markets that can be served by open technology start-ups. The focus of the funnel is on open technology innovations from early stage projects to the launch of fundable start-up companies. The Funnel will assist entrepreneurs assess the market-relevance of innovation projects, refine business concepts to utilize the commercialization potential of projects, and provide access to capital resources and expertise for business development.

www.opentechcenter.com

Funding: Current state funding level of \$150,000 with match from local government and private industry

Program: Oregon's Lab2Market Initiative

Description: Spearheaded by Portland State University, the Lab2Market is a collaboration between Oregon's universities, the Pacific Northwest National Lab (PNNL), state government and the private sector. Designed to facilitate the commercialization of novel technologies and the creation of high-wage jobs by forging networks between private-sector business expertise and world-class research at Oregon's universities. At the end of the three years, Lab2Market researchers plan to have launched 12 new technologies through licensing agreements or start-up ventures.

Funding: National Science Foundation 3 year grant with match.

-PENNSYLVANIA-

Contact: Rebecca Bagley, Deputy Secretary for Technology
Pennsylvania Department of Community and Economic Development
400 North Street, 4th Floor
Harrisburg, Pennsylvania 17120
(717) 720-1367
rbagley@state.pa.us

Program: Ben Franklin Technology Development Authority

Description: Maintains an annual funding pool through which it funds four long-standing regional technology centers and also can support large-scale university research program and make direct investments either in companies or in venture capital firms across all technology sectors.

Funding: \$55 million annually

Program: Life Sciences Greenhouses

Description: Three regional centers focused on various aspects of life science commercialization. BioAdvance in Philadelphia; Pittsburgh Life Sciences Greenhouse in Pittsburgh and the Central Pennsylvania Life Sciences Greenhouse make up the three.

Funding: Each center has \$33 million of tobacco settlement money allocated over 5 years

Program: Nanotechnology Alliance

Description: The Ben Franklin Technology Development Authority funded this multi-institutional research consortium specifically focused on bio-medical applications of nanotechnology.

Funding: \$10.8 million over five years

Program: Venture Capital Funding

Description: The Tobacco Settlement Board has invested in three Pennsylvania venture capital companies: Quaker BioVentures, Early Stage Partners, and Birchmere Ventures.

Funding: \$60 million - \$20 million in each company

-RHODE ISLAND-

Contact: Saul Kaplan, Deputy Director
Business Development and Innovation
Rhode Island Economic Development Corporation
One West Exchange Street
Providence, Rhode Island 02903
(401) 222-2601
skap@riedc.com

Program: Samuel Slater Technology Fund

Description: The fund operates three nonprofit centers that invest in pre-seed investments and university and industry partnerships. The three centers are:

Slater Biomed
Slater Marine and Environmental Technology
Slater Interactive

History: The legislature doubled the budget to its current level in 2003

Funding: \$3 million per year

-SOUTH CAROLINA-

Contact: Eric Miller
South Carolina Department of Commerce
1201 Main Street, Suite 1600
Columbia, South Carolina 29201
(803) 737-0400
emiller@sccommerce.com

Program: Centers of Excellence

Description: South Carolina's Research Centers of Economic Excellence awards are incentives for its senior research universities to raise capital from the private sector to endow at least one newly recruited professorship and to provide associated space, equipment, and technical research staff. The intent of the program is to create a critical mass of senior researchers around whom a Center of Excellence can be built. Such a Center will include other senior and junior faculty, graduate students, and public/private partnerships with business and industry.

History: During the 2002 legislative session, the South Carolina General Assembly passed the *South Carolina Research Centers of Economic Excellence Act*. With an allocation of \$30 million in lottery funds, to be matched on a dollar-for-dollar basis with non-state funds, the General Assembly established a competitive grants program to award South Carolina's three research universities (Clemson University, the Medical University of South Carolina, and the University of South Carolina) funds for endowed professorships in areas that will enhance economic opportunities for the state's citizens. The Act created the *Centers of Excellence Matching Endowment*, which is to be funded annually by appropriations from the South Carolina Education Lottery Account in an aggregate amount not to exceed \$200 million by 2010.

Projects: In three rounds, the following projects were supported:

Clemson University

- Automotive Research \$5 million
- Automotive Manufacturing \$5 million
- Automotive Design & Development \$5 million
- Photonic Materials \$5 million
- Restoration \$3 million
- Vehicle Electronic Systems \$3 million
- Electron Imaging \$5 million
- Supply Chain Optimization & Logistics \$2 million

University of South Carolina (USC)	
• Nanostructures	\$4 million
• Polymer Nanocomposite	\$3.5 million
• Hydrogen Fuel Cell Economy	\$5 million
• Travel & Tourism Technology (with Coastal Carolina University)	\$2 million
• Fuel Cells/Hydrogen Economy	\$3 million
Medical University of South Carolina	
• Marine Genomics	\$4 million
• Proteomics	\$4 million
• Neuroscience	\$3 million
• Brain Imaging (with USC)	\$5 million
• Regenerative Medicine (with Clemson/USC)	\$6 million
• Translational Cancer Therapeutics (with USC)	\$5 million
• Drug Discovery in Cancer (with USC)	\$5 million
• Gastrointestinal Cancer Diagnostics	\$5 million
• Vision Science (with USC)	\$4.5 million

Funding: \$92 million has been funded.

Program: Research Innovation Centers

Description: The Centers are designed to connect university research with private industry and will be under the South Carolina Research Authority (SCRA). The General Assembly included in the budget bill a proviso requiring the SCRA to transfer \$3 million immediately and \$12 million over for four years to create and operate the three centers. The Centers will help move cutting-edge research from campus labs into the marketplace.

History: During the 2005 legislative session, the South Carolina General Assembly passed legislation providing for the establishment of three Research Innovation Centers on the campuses of Clemson University, the University of South Carolina, and the Medical University of South Carolina.

Funding: \$15 million.

Program: Fund of Funds

Description: The *Life Sciences Act* provides incentives for life sciences companies that invest more than \$100 million in a project and create a minimum of 200 new full-time jobs that pay at least one-and-a-half times the annual per capita income for the state or county in which the facility is located. The Act also allows the state to issue up to \$250 million in general obligation bonds to pay for infrastructure improvements necessary to induce the location of large life science facilities within the state.

The *Venture Capital Investment Act* permits the state to develop a fund-of-funds program to support the development of the equity community in South Carolina. The Act permits the state to place up to \$50 million into multiple private venture funds. The goal of this legislation is to address the long-term capital needs for the state's micro enterprises and small- to medium-sized businesses.

History: During the 2004 legislative session, the South Carolina General Assembly passed the *South Carolina Life Sciences Act* and the *Venture Capital Investment Act of South Carolina*. The legislation created a venture capital fund for the state and offers tax credits and other incentives to attract large life science and pharmaceutical businesses. It also facilitates borrowing up to \$250 million for university construction and improvement projects encouraging research and tech-based economic development.

Funding: \$50 million

-SOUTH DAKOTA-

Contact: Mel Ustad, Director of Commercialization
South Dakota Department of Tourism and State Development
2329 N. Career Ave., Suite 108
Sioux Falls, South Dakota 57107
(605) 367-4515
mel.ustad@state.sd.us

Program: Research Centers Program

Description: 2010 Research Centers

Through a competitive peer review process, four 2010 Research Centers were established and funded at \$2.7 million annually for five years in 2004. The 2010 Research Centers include:

- Center for Infectious Disease Research and Vaccinology (SDSU Department of Veterinary Science & USD School of Medicine)
- Center for Accelerated Applications at the Nanoscale (SDSM&T Department of Materials and Metallurgical Engineering)
- Center for the Research and Development of Light-Activated Materials (USD & SDSU Chemistry Departments, USD School of Medicine & Avera Research Foundation)
- South Dakota Signal Transduction Center (USD School of Medicine & South Dakota Health Research Foundation)

History: First centers funded in 2004

Funding: \$2.7 million annually

Program: Revolving Economic Development and Initiative Fund (REDI)

Description: Several sub-funds are being administered by REDI – they include:

The Value-Added Agricultural Sub-fund - \$3 million

Entrepreneur Support Sub-fund - \$5 million

A venture sub-fund - \$12 million

Each of these funds can make loans that are repayable over 20 years if the business is successful. If the business fails, the loan turns into a grant.

Funding: \$20 million total

Program: Enterprise Institute

Description: The EI is a separate non-profit organization formed to provide support to entrepreneurs and start-up companies. The EI assists in developing university-generated technologies, mentors emerging businesses and offers educational programs on entrepreneurship.

History: Started in May 2001 by South Dakota State University

Funding: 2004 state funding was \$100,000

-TENNESSEE-

Contact: Eric Cromwell, Director of Technology
Tennessee Department of Community and Economic Development
William R. Snodgrass Tower, 11th Floor
312 8th Avenue North
Nashville, Tennessee 37243
(615) 428-0857
eric.cromwell@state.tn.us

Program: Centers of Excellence Program

Description: The Tennessee Higher Education Commission funds this program. State funds are used to leverage federal and corporate funding. Approximately 20 centers have been created since 1984.

History: Program began in 1984

Funding: \$17.7 million current years budget

-TEXAS-

Contact: Mark Ellison, Director
Texas Emerging Technology Fund
Office of the Governor
P.O. Box 12428
Austin, Texas 78711
(512) 463-1472
mark.ellison@governor.state.tx.us

Program: Texas Enterprise Fund

Texas Institute for Genomic Medicine

Description: The Texas Enterprise Fund has funded this new Institute. The facility will conduct research in gene knockout technology.

History: Funded July 2005

Funding: \$50 million

Program: Emerging Technology Fund

Description: At the request of Governor Perry, the 79th Legislature approved HB1765, which established the Texas Emerging Technology Fund.

Funding: \$100 million from General Revenue - available September 1, 2005
\$100 million from Rainy Day fund surplus - estimated to be available September 1, 2006

The Emerging Technology Fund (ETF) shall be allocated as follows:

Fiscal Year 2006 to start September 1, 2005

\$50 million is reserved to Regional Centers of Innovation and Commercialization project activity.

\$25 million is reserved for emerging technology research matching grant activity.

\$25 million is reserved for acquisition of research superiority grant activity.

Fiscal Year 2007 to start September 1, 2006 (dependent on available rainy day funds)

\$50 million is reserved to Regional Centers of Innovation and Commercialization project activity.

\$25 million is reserved for emerging technology research matching grant activity.

\$25 million is reserved for acquisition of research superiority grant activity.

The Governor may reallocate money from one component of the fund to another component subject to the prior approval of the Lt. Governor and Speaker of the House.

The ETF will have 3 components:

1. Regional Centers of Innovation and Commercialization (RCIC) project grants

RCIC shall provide:

- Applied Research and Development activities.
- Commercialization of the applied R&D.
- Incubators for new business and expansion of existing business resulting from applied R&D.
- Workforce Training for business resulting from the applied R&D.

RCIC “project” activity:

- Will be collaborative.
- Will have a defined project scope.
- Will have a defined commercialization path.
- Will have a complete business plan.
- Uses other available matching funds from the collaborating project partners.
- Will have a demonstrable economic impact to this state.

2. Matching emerging technology research grants

- Priority shall be given to proposals that accelerate commercialization into production by targeting programs that:
 - Address federal or other major research sponsors priorities in emerging scientific or technology fields
 - Are interdisciplinary
 - Are collaborative
 - Are likely to result in a medical or scientific breakthrough
 - Have a demonstrable economic development benefit to the state
- Acquisition of research superiority grants
- Shall be used to acquire new or enhanced existing research superiority (talent) at public institutions of higher education in this state for:
 - Creating new research superiority
 - Attracting existing research superiority from institutions not located in this state
 - Enhancing existing research superiority by attracting from outside this state additional researchers and resources.

Emerging Technology activity is eligible for funding if:

- Will result in creation of high quality new jobs, immediately or over a longer period, in the state if tied to emerging technology;
or
- Has the potential to result in a medical or scientific breakthrough

-UTAH-

Contact: Nicole Toomey Davis, Director
Centers of Excellence Program
324 South State Street
Salt Lake City, Utah 84111
(801) 538-8687
<http://goed.utah.gov/COE/index.html>
ndavis@utah.gov

Program: Utah Centers of Excellence Program

Description: This program is one of the longest continuous technology commercialization programs in the U.S. University technologies that hold promise for becoming commercial are awarded funding for up to four years. Centers are generally awarded \$100,000 to \$200,000 annually to advance the technology development. Each Center is also mentored by a carefully selected business team comprised of seasoned technology executives and serial entrepreneurs to bridge the academic success into a commercial success. 18 centers are currently being funded with 3 additional groups receiving business planning funding:

Acoustic Cooling Technology (U/U) (Business Planning Funding)
Acoustics Research (BYU)
Advanced Communications Technology (BYU)
Advanced Imaging LADAR (USU)
Advanced Satellite Manufacturing (USU)
Alternate Strategies of Parasite Removal (U/U)
Biomedical Microfluidics (U/U)
Computational Design & Testing of Novel Materials (U/U)
Control of Flow in Manufacturing (USU) (Business Planning Funding)
Direct Machining and Control (BYU) (Business Planning Funding)
Global Knowledge Management (U/U)
High-Speed Information Processing (USU)
Homogeneous DNA Analysis (U/U)
Interactive Ray-Tracing & Photo-Realistic Visualization (U/U)
Magnetic Sensor & Actuator Materials (U/U)
Microarray Technology (U/U)
Miniature Unmanned Air Vehicles (BYU)
Modified Activated Carbons Technology (U/U)
Nanosize Inorganic Material Powders (U/U)
Therapeutic Biomaterials (U/U)
Titanium Boride Surface Hardening (U/U)

History: Continuous program since 1987

Funding: \$3 million per year currently

Contact: Jeremy Nielson
Utah Capital Investment Corp.
324 South State Street
Salt Lake City, Utah 84111
Email Address: JTNEILSON@utah.gov
Office phone: (801) 538-8726
http://goed.utah.gov/fund_of_funds/index.html

Program: Utah Venture Capital Enhancement Act

Description: This legislation created a tax credit based fund of funds that would come into being with annual increments of \$20 million per year starting in July 2004.

History: Enacted 2003

Funding: \$20 million a year in tax credits for each of five years designed to accelerate the availability of Venture Capital in Utah.

-VERMONT-

Contact: Mike Quinn, Commissioner
Vermont Department of Economic Development
National Life Building, Drawer 20
Montpelier, Vermont 05620
(802) 828-5239
mike@thinkvermont.com

Program: Vermont Venture Capital Fund

Description: This fund is managed by North Atlantic Venture Capital Corporation. The Fund is a private enterprise that invests from \$100,000 to \$750,000 based on estimated return on investment. State funding is involved.

History:

Funding: Variable

Program: Vermont Opportunities Fund

Description: Makes subordinated, debt and equity investments in Vermont enterprises that may not meet the underwriting criteria of conventional banks. The Fund's goal is to invest \$25 million during the next 5 to 7 years.

History: Enacted 2003

Funding: \$25 million

-VIRGINIA-

Contact: Dr. Terry Woodworth
Virginia's Center for Innovative Technology
308 East Market Street
Charlottesville, Virginia 22902
(434) 817-3000

Program: CIT's Growth Acceleration Program

Description: This program provides pre-seed and seed capital to start-up and emerging technology companies. Companies can receive up to \$100,000 in convertible debt that will become equity in the company at the time of a qualifying financing event. The Program is open to early-stage companies in six industry sectors.

History: Started in December 2003

Funding: \$500,000 to date in five companies

Program: Commonwealth Technology Research Fund

Description: This fund was authorized to build life sciences in the state in six identified disciplines.

History: Eight awards have been made for three-year periods

Funding: \$13.9 million to date

-WASHINGTON-

Contact: Dr. Lee Cheatham, Executive Director
Washington Technology Center
300 Fluke Hall, Box 352140
Seattle, Washington 98195-2140
(206) 685-7549
cheatham@watechcenter.org

Program: Research and Technology Development Grants

Description: The Washington Technology Center, a state-funded nonprofit offers a grant supporting university/industry collaboration. The 9-month Phase I (of a two-phase program) offers up to \$40,000 and is matched by the company partner. Projects successfully completing Phase I may apply for Phase II, an award of up to \$100,000 per year for up to 2 years (match 1:1)

History: Started in 1990's

Funding: \$1.5 million annually

Program: Microfabrication User Facility

Description: The Washington Technology Center, a state-funded nonprofit operates a 15,000 square-foot clean room as a shared user facility for startup companies and researchers doing MEMS, micro-optics, microfluidic, electronics and other micro-scale research and product development.

History: Started in 1990's

Funding: \$1 million annually

Program: WTC Angel Network

Description: The Washington Technology Center, a state funded nonprofit promotes and facilitates the startup and operation of angel investment groups around the state. This program, jointly funded by the State of Washington and then US Economic Development Administration, targets its support to potential angel investors in mid-size to small communities with emerging technology-based companies.

History: Started in 2003

Funding: \$150,000 annually

Program: Washington Research Foundation

Description: The University of Washington now uses its backed surplus to finance WRF Capital, a seed stage fund that invests in companies with strong ties to the University of Washington and other nonprofit research institutions.

Funding: \$25 million

-WEST VIRGINIA-

Contact: Jamie Gaucher, Manager, Technology Development
West Virginia Development Office
Capitol Complex, Bldg. 6 Mm. 553
1900 Kanawha Blvd., East
Charleston, West Virginia 25305
(800) 982-3386
jgaucher@wvdo.org

Program: West Virginia Initiative for Economic Development

Description: A competitive research grant program focused on research that is critical to the strategic plan for economic development

Funding: \$4 million

Program: University Centers for Economic Development and Technology Advancement

Description: Center activities may include evaluation of technology; verification and assessment of market applications; grant administration and management for any entity associated with the University if the entity is engaged in business-industry collaborations and technology advancement, commercialization activities and research into new areas of economic development. The Centers have the right to receive, lease, and sell real, personal and intellectual property.

History: Created by the Legislature in 2003

Funding: \$1 million in tax credits

Program: Biometrics Knowledge Center

Description: Conducts interdisciplinary research in the convergence of disciplines defining biometrics. The Center provides a forum where researchers and potential sponsors can collectively develop a national biometrics research enterprise.

Funding: \$2.3 million

Program: West Virginia Capital Company Act

Description: The state chose seven qualified capital companies and invested various amounts in each of them. To date these companies have invested \$10 million in 14 West Virginia companies.

History: Tax credits and initiatives began in 2003

Funding: \$24.25 million plus \$3 million in tax credits

-WISCONSIN-

Contact: Thomas Still, President
Wisconsin Technology Council
615 E. Washington Ave.
P.O. Box 71
Madison, Wisconsin 53701
(608) 442-7557
tstill@wisconsintechcouncil.com

Program: Industrial and Economic Development Research Program

Description: Through this program, grants of up to \$35,000 are offered for 12 months for applied research that promote technology transfer or help generate additional public and private-sector support.

History: Started in 1986

Funding: \$600,000 annually

Program: Robert Draper Technology Innovation Fund

Description: The University of Wisconsin at Madison is supported by WARF (the university's tech transfer foundation) to make grants of up to \$40,000 for a year for pre-commercial research projects that come from WARF inventions.

Funding: \$400,000 annually

Program: State of Wisconsin Investment Board's "Invest in Wisconsin Program"

Description: This organization manages public pension funds and other state trust funds and investments. Under this program, the board approved \$50 million to be invested in venture-capital funds based in Wisconsin or the Midwest that would target early-stage companies being developed at the state's research universities.

History: Approved in 1999

Funding: \$35 million invested in two venture funds

-WYOMING-

Contact: Dr. William A. Gern, VP for Research
University of Wyoming
PO Box 3355, Rm 305, Old Main
Laramie, Wyoming 82071
(307) 766-5353
willger@uwyo.edu

Program: SBIR Phase 0 Program

Description: Offers grants of \$5,000 to companies making Phase I proposals to federal programs. Companies received 13 Phase I's last year. The State contracts with University of Wyoming for mentoring and writing of grant proposals.

History: Began in 1998

Funding: \$240,000 per year

Program: Patent Acceleration Program

Description: By focusing on finding and patenting inventions. Has made Wyoming. 2004 percent increase in patents the highest increase rate of any state.

Funding: \$200,000 for salary