

**Comparison of State-Funded Research Programs
Quick Facts**

Program Elements	Advanced Research Program	Research Development Fund	House -- Competitive Knowledge Fund	Emerging Technology Fund
Funding 2006-07	\$8,381,844	\$42,769,491	New Program – in rider to House CSHB1	\$200,000,000
Funding 2008-09	\$16,698,922	\$80,862,828	\$93,207,615	~\$165,000,000 available (includes \$75,000,000 in new GR & UB from prior biennium)
Proposed Funding Level 2010-11	Staff Recommended Legislative Appropriations Request Baseline: \$16,713,141 Exceptional: \$25,500,000	Unknown	Unknown	Unknown
Focus of Program	Basic research (exploration of new ideas)	Building/enhancing research capacity at public universities	Research (This is the reference in the rider)	Commercialization of research, increasing applied technology research capabilities, and job creation
Total Grant Awards (from inception to present)	1987 to the present 1,520 awards \$186,332,896 Total 2006-07 88 awards \$8,354,300 Total 2008-09 121 awards \$16,542,041	N/A – not a grant program	N/A – not a grant program	2006-09 awards to date Commercialization: 38 awards \$42,534,349 Matching Grants: 12 awards \$20,725,000 Acquisition of Research Superiority: 11 awards \$45,724,000 Total 2006-09 \$108,983,349
Average Grant (for Grant Programs)	Historical Average: \$122,301 Average for 2008-09 awards: \$136,711	N/A – not a grant program	N/A – not a grant program	Commercialization: \$1,119,325 Matching Grants: \$1,727,083 Acquisition of Research Superiority: \$4,156,727
External Funding	1987 to the present ~\$560 million	No data	No data	Data not yet available
Leverage of External Funding	3 to 1 Faculty frequently use ARP awards as seed money to draw down external funding	No data	No data	Data not yet available (External funding or partnerships are expected for most projects)

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Return on Investment	4.6 to 1 (ROI includes follow-on research funding from external sources; revenues generated from licensing & royalty agreements; commercialization in the form of revenues, venture capital funding, employee salaries, & research & development funding for companies formed in whole or in part from research; & industrial benefits arising from the adoption of a new process, improvement of an existing process, cost savings or cost avoidance.)	No data	No data	Data not yet available (ROI metrics – particularly commercialization benefits – are built into awards. It’s too early for results.)
Source of Funds	General Revenue	Return on investment of permanent HEF plus additional appropriations, if Leg. chooses	General Revenue	Appropriations, benefits from funded projects, investment interest, donations
Determiner of Award	Coordinating Board, based on recommendations of external peer reviewers and Advisory Committee on Research Programs	Legislature	Legislature	Governor, Lt. Governor, and Speaker of the House, based on recommendations of Texas Emerging Technology Committee
Eligible Institutions	All public higher education institutions, including health-related institutions	All general academic institutions, except The University of Texas at Austin, Texas A&M University, and Prairie View A&M	Eligible institutions identified in rider.	All public higher education institutions, including health-related institutions
Amount of Award	Based on grant proposal submitted by researcher; UT & A&M System schools may not receive more than 70% of funds	Based on average amount of restricted research expended by each institution per year for the three preceding years	10% of all research expenditures, based on a three-year average (FY 2003, 2004, 2005)	Based on grant proposal submitted by institution or researcher
Use of Funds	Conduct basic research	Develop/enhance research capacity. Examples: faculty research grants, laboratory	Research	Incentives for entities to collaborate with hi ed institutions on emerging tech projects with an economic

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		upgrades, travel grants, faculty salary supplements, student research assistantships, sponsored program office operations, proposal development, publications, support for new programs, support for new faculty, and grad student tuition.		benefit, especially commercialization. Match awards from external research sponsors, especially proposals that accelerate commercialization into production. Acquire new or enhance existing research superiority (must have commercialization experience) at public institutions of higher ed.

Comparison of State-Funded Research Programs
Detailed Overview (Providing More Information about the Program Elements Listed in the Quick Facts)

Program Elements	Advanced Research Program	Research Development Fund	House -- Competitive Knowledge Fund	Emerging Technology Fund
Source of Appropriated Funds	General Revenue	A fund outside the state treasury in the custody of the Comptroller. The fund consists of the amount deposited to the credit of the fund under Sec. 62.025 (the total return on investment on all investment assets of the permanent HEF in the preceding state fiscal year). In addition, the Legislature may appropriate or provide for the transfer to the credit of the RDF an amount not less than the amount deposited under Sec. 62.025; and shall appropriate all interest, dividends, and other income earned from investment of the RDF; and gifts or grants.	General Revenue	A dedicated account in the general revenue fund consisting of appropriations, benefits realized from a project undertaken with money from the fund; gifts, grants and other donations; and interest earned on the investment of money in the fund.
Determination of Award	Coordinating Board – based on recommendations from external peer review panels and Advisory Committee on Research Programs.	Statutory methodology for determining each institution’s allocation. Legislative appropriations distributed funding for FY06-07 and 08-09 biennia. Comptroller distributes funding based on Coordinating Board reports of restricted research expenditures. Awards from which restricted research expenditures are claimed are scrubbed by panels of representatives from participating institutions.	Eligible institutions identified in rider. Legislative appropriations distribute funding.	The Texas Emerging Technology Committee “shall make recommendations, through peer review and evaluation processes established by the committee, to the Governor, Lt. Governor, and Speaker of the House of Representatives for the award of money from the fund. The committee may establish advisory panels of knowledgeable individuals from industry, state government, or academic occupations to assist in peer review activities.”
Stated Purpose of Program/Fund	“The advanced research program is established to encourage and provide support for basic research	“The research development fund is established to provide funding to promote increased research	The program is established by rider. The rider states: “The	“To develop and diversify the economy of this state by: (1) expediting innovation and

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<i>(statutory or rider citation)</i>	conducted by faculty members in astronomy, atmospheric science, biological and behavioral sciences, chemistry, computer science, earth sciences, engineering, information science, mathematics, material sciences, oceanography, physics, environmental issues, affecting the Texas-Mexico border region, the reduction of industrial, agricultural, and domestic water, social sciences, and related disciplines in eligible institutions.” (Chapter 142, Texas Education Code)	capacity at eligible general academic teaching institutions.” (Subchapter E, Chapter 62, Texas Education Code)	amounts listed below for informational purposes are appropriated out of the General Revenue fund elsewhere in this Act in each affected institution's "Texas Competitive Knowledge" strategy and shall be expended to support faculty for the purpose of instructional excellence and research.” (Section 55, page III-233, Special Provisions Relating only to State Agencies of Higher Education GAA HB1)	commercialization of research; (2) attracting, creating, or expanding private sector entities that will promote a substantial increase in high-quality jobs; and (3) increasing higher education applied technology research capabilities.” (Chapter 490, Government Code)
Eligible Institution	Public institutions of higher education. Eligible institutions are those defined by Sec. 61.003(8), Education Code: “‘Institution of higher education’ means any public technical institute, public junior college, public senior college or university, medical or dental unit, public state college, or other agency of higher education as defined in this section.”	“‘Eligible institution’ means a general academic teaching institution, as defined by Section 61.003, other than The University of Texas at Austin, Texas A&M University, or Prairie View A&M University.” (All universities plus the two Lamar State Colleges.)	The rider lists four public universities: Texas A&M University, Texas Tech University, The University of Texas at Austin, and University of Houston	Public institutions of higher education. Eligible institutions are those defined by Sec. 61.003, Education Code: “‘Institution of higher education’ means any public technical institute, public junior college, public senior college or university, medical or dental unit, public state college, or other agency of higher education as defined in this section.”
Determination of Allocation Amount	The program operates on a biennial award cycle. As a peer-reviewed, competitive grant program, ARP uses highly regarded out-of-state academic research scientists and in-state and out-of-state industrial	The total amount of all assets in the research development fund shall be distributed to eligible institutions each year. The amount shall be apportioned among the eligible institutions based on the average amount of	The allocation method is not described in the rider, but the 08-09 amounts were tied to the institution’s research expenditures (requires reconciliation with the	The Emerging Technology Fund is allocated among three programs: 50% for incentives for collaboration between certain entities in Regional Centers of Innovation and Commercialization; 25% for research matching grants; and 25%

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	<p>research scientists to evaluate and select the most promising projects proposed by Texas faculty researchers.</p> <p>A rider in the Coordinating Board's appropriation specifies that no more than 70% of the program funding shall be designated for The University of Texas and the Texas A&M University Systems.</p> <p>Faculty frequently use ARP funds as seed funding to leverage external funding (each state dollar leverages three external dollars). The Coordinating Board determines the targeted fields (because of limited funds the most recent round of ARP grants were awarded in the fields of Biological Sciences, Chemistry, Computer Sciences, Earth Sciences, Engineering, Materials Science, Mathematics and Physics) and the maximum amount of the awards (the most recent round limited grant maximums) based on recommendations from its Advisory Committee on Research Programs.</p>	<p>restricted research expended by each institution per year for the three preceding state fiscal years. (The amount of restricted research funds expended is the amount of those funds as reported to the Coordinating Board for that fiscal year, subject to any adjustment by the CB in accordance with the standards and accounting methods the board prescribes.)</p>	<p>institutions' annual financial reports).</p>	<p>for the acquisition of research superiority.</p> <p>The funding amount is dependent on the proposal.</p>
Use of Funds	<p>"The funds appropriated for the program may be expended to support the particular projects for which an award is made and may</p>	<p>"An eligible institution may use money received from the research development fund only for the support and maintenance of</p>	<p>Rider specifies that the amount is appropriated for research.</p>	<p>(1) Regional Centers of Innovation and Commercialization – "incentives for private or nonprofit entities to collaborate with public or</p>

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	<p>not be expended for the general support of ongoing research at an eligible institution or for the construction or remodeling of a facility.”</p>	<p>educational and general activities, including research and student services, that promote increased research capacity at the institution.”</p> <p>In practice, the funding supports a variety of research-related activities including faculty research grants, animal research facilities, laboratory upgrades, travel grants, faculty salary supplements, student research assistantships, sponsored program office operations, proposal development, publications, software, outreach, support for new academic programs, training opportunities, support for new faculty, supplies, equipment, and graduate student tuition. Many of the faculty research grants are typically \$5,000 or less (and in some cases less than \$200) and support a great variety of work in engineering, business, art, music, and the sciences, including social sciences.</p>		<p>private institutions of higher education on emerging technology projects with a demonstrable economic benefit to the state” (including research & development activities that may include initiatives to prove the feasibility of an idea; commercialization of the results of research & development; incubators for new businesses and expansion of existing businesses related to R&D; & workforce training for businesses resulting from R&D).</p> <p>(2) Research Grant Matching – “Funds reserved to match funding from research sponsors other than this state, including federal research sponsors.” (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 with a combination of public or private institutions; are likely to result in a medical or scientific breakthrough; or have a demonstrable economic benefit to the state.)</p> <p>(3) Acquisition of Research Superiority – Amounts shall be used “to acquire new or enhance existing research superiority at public institutions of higher ed in this</p>

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				state” (create new superiority; attract existing research superiority from other states; or enhance existing superiority by attracting researchers or resources from outside Texas) Institutions must document specific benefits that the state expects to gain as a result of attracting the research superiority & funding may be terminated if benefit is not realized.
Proposed Amendments – 81st Legislature	N/A	N/A	N/A	N/A