

# **BASIC RESEARCH GRANT PROGRAM**

## **GUIDELINES**

### **INTRODUCTION**

The Arkansas Science & Technology Authority is empowered by the Arkansas Legislature to encourage, establish, and support both basic and applied research in science and technology in the state's colleges and universities.

The following guidelines address only proposals for the Authority's Basic Research Grant Program. The Authority is governed by a Board of Directors that awards grants to qualified faculty applicants to conduct research investigations. Through these grants, the Board seeks to encourage and support scientific areas that contribute to the economic development of the state.

### **BASIC RESEARCH GRANTS**

The Basic Research Grants program will fund original, innovative investigations for the advancement of scientific or technological knowledge. The Authority's goal is to promote and support excellence in science at four levels:

1. Scientists who are on the verge of becoming nationally competitive with funding to enhance their opportunity for national recognition.
2. Young scientists with funding to initiate research programs.
3. Scientists previously successful in obtaining funding in one area must present innovative projects or technologies for funding in different areas of research.
4. Scientists not previously supported with funding to initiate a research program.

Investigative proposals should be well written, defined, and consistent with the mission and goals of the Authority. Forty percent of the total cost of the proposed research must be funded by monies or in-kind services provided by the college or university proposing the research project. Basic Research Grants are for one-year's duration unless otherwise agreed to by the Authority.

### **APPLICANT ELIGIBILITY**

Full-time faculty members at colleges and universities located in Arkansas may submit applications to the Authority. Post-doctoral students are not considered qualified applicants. Each application must be submitted in accordance with procedures established at the institutions for submissions of requests for external support.

### **TYPES OF PROJECTS**

The Authority funds projects that have a high probability of contributing to the enhancement and growth of science and technology in Arkansas. In addition, the Authority supports basic research that is concerned with the innovative generation of new knowledge. The Basic Grant Program of the Authority will not support market research for particular products or inventions.

### **SUBMISSION OF BASIC RESEARCH PROPOSALS**

The Arkansas Science & Technology Authority solicits Basic Research Proposals two times during the fiscal year. The scheduled deadline dates for grant submission can be obtained either from your Office of Research & Sponsored Programs or by contacting the Authority Office at 501-324-9006. Proposals must be received before 4:30 PM on the scheduled deadline date.

Nine (9) copies of a proposal must be submitted. Each proposal must not exceed twenty-five pages, including cover page and appendices. Unless specifically stated in the guidelines, all portions of an application must be typed double spaced on standard letter-size paper, using a font size of 12 point, and have one inch margins. The Authority will not accept facsimile transmitted (fax) copies of proposals. The proposal should contain in order each of the following items:

1. A separate cover letter to the Arkansas Science & Technology Authority must accompany the research proposal from the Research & Sponsored Programs Office of the Principal Investigator's institution.
2. A CIP Code number (Appendix I) that clearly describes the field of research must be indicated on the Cover Sheet (Appendix II). Note: The Cover Sheet is the first page of the proposal.
3. The Cover Sheet must have a brief abstract that defines the exact nature and scope of the project. The abstract may be single-spaced if necessary.
4. The Cover Sheet must have the signatures of the appropriate university or college officials and the Principal Investigator.
5. Page two of the proposal begins with a statement of the specific objectives to be attained by the investigation.
6. A review of the current literature on the proposal topic is required. Include within the body of the literature review the various literature abbreviated citations, e.g., author, and year. A complete list of author, year, title, scientific journal, book, volume, and pages should occur immediately after the literature review section. When citations occur in the implementation plan, the listing of citations will occur after this section. Each citation must be single-spaced and must be double-spaced between individual items.
7. A clearly defined implementation plan for the accomplishment of the project is required. This must include a description of the proposed activities, experimental design and methods, timetable, and information detailing the availability of support facilities, equipment, and personnel necessary to attain the project's objectives.
8. A detailed budget is necessary for the project period that includes personnel, fringe benefits, equipment, supplies, and travel (Appendix III). Expenditures made more than 90 days prior to an award will not be approved. Verification of expenditures will be required.

Note: the Authority will not fund indirect costs, but institutions may budget indirect in their matching costs at 50% of the approved NIH or NSF schedule. Budget changes will require prior approval by the Authority.

9. A statement detailing the source and amount of the required matching funds.

10. A statement of plans for future support of the research from federal and/or other external sources. This section must include the identification of the specific funding sources to be approached.
11. A description of the faculty personnel and their qualifications is required. Each faculty member of a project must be listed as Co-Principal Investigator(s). The person(s) principally responsible for the actual work must be listed as the Principal Investigator. Relevant information must include the academic credentials of key professionals, a list of recent publications in accepted professional journals, and a listing of external support. The publication and external support information can be single-spaced but must be double spaced between individual citations. The list of external funding should include all investigators and the dates when awarded. Indicate any previous Authority funding and the award dates. This section should include a statement of each researcher's percentage effort on the proposed project.
12. A statement addressing the extent to that the proposed research will develop or build upon an established institutional base of research capability.
13. A statement addressing the potential of the proposed project to enhance the economy of Arkansas.
14. A statement that a final summary report will be submitted to the Authority within sixty days after the expiration of the award. A Final Summary Report Form is attached (Appendix IV).
15. One copy of a statement summarizing your research proposal is required. The summary must be written in non-scientific language that can be understood by an educated individual. The copy must be on a separate page from the proposal and include both the project title and the investigator's name. The description must be typed double-spaced on standard letter-size paper, using a font of 12 point, and have one inch margins. The length of the summary must be more than 200 words and not longer than one printed page. The Authority may disseminate the summary. Please be especially cognizant of correct syntax, spelling, and grammar when constructing the summary.
16. Final expenditure information must be provided by the grantee's financial officer. The officer's report must be on a separate page and included with the final report.
17. Include separate enclosures for Human Subjects and/or Recombinant DNA Certifications, if required by your institution.

#### PROJECT REVIEW CRITERIA

Each eligible proposal will be reviewed and evaluated by peer reviewers appointed by the Research Committee of the Authority's Board of Directors. List on a separate sheet of paper the names of individuals you do not want to review your research proposal. In addition, identify five nationally known individuals in your research area who could be contacted as possible peer reviewers of your research proposal.

The Research Committee is committed to recommending to the Board of Directors for funding only those proposals that have clear economic development potential and are ranked as being meritorious.

The Authority will make every effort to complete the review process within ninety (90) days of proposal deadlines.

#### AWARDS

The final decision to commit funds to an applicant will be made by the Board of Directors of the Authority. The decision to fund will be based on information derived from the review process and its accompanying criteria and the Board's own interpretation of the information. The decision of the Board is final. Awards will be announced at the meeting of the Board of Directors following proposal review and evaluation.

#### ACKNOWLEDGMENTS

All publications or presentations that result from an award must acknowledge the financial assistance provided by the Arkansas Science & Technology Authority. Reprints or photocopies of publications related to the grant should be forwarded to the Authority.

#### MAILING INFORMATION

Proposals must be sent to the attention of

Vice President Research, Arkansas Science & Technology Authority,  
423 Main Street, Suite 200, Little Rock, Arkansas 72201.

Receipt of the proposals will be acknowledged promptly and each institution will be advised of any action taken by the Authority. Approved by the Board of Directors on this 17<sup>th</sup> day of March, 2000

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Ron Roberts  
Secretary  
Board of Directors

#### **CHECKLIST FOR PROPOSAL SUBMISSION**

To assure that research proposals submitted to the Authority are complete, an administrative check of the following items must be made before mailing.

- \_\_\_\_\_ Office of Research & Sponsored Programs letter.
- \_\_\_\_\_ Project CIP Code category indicated on Cover Sheet (Appendix I).
- \_\_\_\_\_ Completed Cover Sheet and a project summary (Appendix II).

\_\_\_\_\_ All required signatures (Principal Investigator, Co-Principal Investigator, and authorizing official) on Cover Sheet.

- \_\_\_\_\_ Detailed description of the proposed research.
- \_\_\_\_\_ Literature review followed by a detailed list of cited literature in the proposal.

\_\_\_\_\_ Implementation plan that includes a list or description of available facilities and major items of equipment to be used in the proposed research.

\_\_\_\_\_ Budget in requested format (Appendix III), including brief description and justification of

major items of requested equipment.

\_\_\_\_\_ Source and amount of required matching funds.

\_\_\_\_\_ Future support statement and funding possibilities.

\_\_\_\_\_ Vita of the Principal Investigator and all Co-Principal Investigators.

\_\_\_\_\_ List all external funding and the date of the award. Indicate any previous Authority funding.

\_\_\_\_\_ A statement regarding the establishment of an institutional base of research capability.

\_\_\_\_\_ A statement of how the project will enhance the Arkansas economy.

\_\_\_\_\_ Statement concerning the Final Summary Report.

\_\_\_\_\_ Page limitation not exceeded.

\_\_\_\_\_ Nine (9) copies of the proposal. The first copy is the original and signed document.

\_\_\_\_\_ Human Subjects Certification if required (separate enclosure).

\_\_\_\_\_ Recombinant DNA Certification if required (separate enclosure).

\_\_\_\_\_ Non-scientific summary of the research proposal (separate enclosure)

## **APPENDIX I**

### **CIP CODES**

#### **AGRICULTURE**

01. Agricultural Business and Production

01.01 Agricultural Business and Management

01.02 Agricultural Mechanization

01.03 Agricultural Production Workers and Managers

01.04 Agricultural and Food Products Processing

01.05 Agricultural Supplies and Related Services

01.06 Horticulture Services Operations and Management

01.07 International Agriculture

01.99 Agricultural Business and Production, Other

02. Agricultural Sciences

02.01 Agriculture/Agricultural Sciences

02.02 Animal Sciences

02.03 Food Sciences and Technology

02.04 Plant Sciences

02.05 Soil Sciences

02.99 Agriculture/Agricultural Sciences, Other

03. Conservation and Renewable Natural Resources

03.01 Natural Resources Conservation

03.02 Natural Resources Management and Protective Services

03.03 Fishing and Fisheries Sciences and Management

03.04 Forest Production and Processing

03.05 Forestry and Related Sciences

03.06 Wildlife and Wildlands Management

03.99 Conservation and Renewable Natural Resources, Other

#### **COMMUNICATIONS**

10. Communications Technologies

10.01 Communications Technologies  
COMPUTER AND INFORMATION SCIENCES  
11. Computer and Information Sciences  
11.01 Computer and Information Sciences, General  
11.02 Computer Programming  
11.03 Data Processing Technology  
11.04 Information Sciences and Systems  
11.05 Computer Systems Analysis  
11.07 Computer Science  
11.99 Computer and Information Sciences, Other

ENGINEERING

14. Engineering  
14.01 Engineering, General  
14.02 Aerospace, Aeronautical and Astronautical Engineering  
14.03 Agricultural Engineering  
14.04 Architectural Engineering  
14.05 Bioengineering and Biomedical Engineering  
14.06 Ceramic Sciences and Engineering  
14.07 Chemical Engineering  
14.08 Civil Engineering  
14.09 Computer Engineering  
14.10 Electrical, Electronics and Communications Engineering  
14.11 Engineering Mechanics  
14.12 Engineering Physics  
14.13 Engineering Science  
14.14 Environmental/Environmental Health Engineering  
14.15 Geological Engineering  
14.16 Geophysical Engineering  
14.17 Industrial/Manufacturing Engineering  
14.18 Materials Engineering  
14.19 Mechanical Engineering  
14.20 Metallurgical Engineering  
14.21 Mining and Mineral Engineering  
14.22 Naval Architecture and Marine Engineering  
14.23 Nuclear Engineering  
14.24 Ocean Engineering  
14.25 Petroleum Engineering  
14.27 Systems Engineering  
14.28 Textile Sciences and Engineering  
14.29 Engineering Design  
14.30 Engineering/Industrial Management  
14.31 Materials Science  
14.32 Polymer/Plastics Engineering  
14.99 Engineering, Other  
15. Engineering-related Technologies  
15.01 Architectural Engineering Technology

- 15.02 Civil Engineering/Civil Technology
- 15.03 Electrical and Electronic Engineering-Related Technology
- 15.04 Electromechanical Instrumentation and Maintenance Technology
- 15.05 Environmental Control Technologies
- 15.06 Industrial Production Technologies
- 15.07 Quality Control and Safety Technologies
- 15.08 Mechanical Engineering-Related Technologies
- 15.09 Mining and Petroleum Technologies
- 15. Engineering-related Technologies (continued)
- 15.10 Construction/Building Technology
- 15.11 Miscellaneous Engineering-Related Technologies
- 15.99 Engineering-Related Technologies, Other

#### HEALTH

- 17. Allied Health
  - 17.01 Dental Services
  - 17.02 Diagnostic and Treatment Services
  - 17.03 Medical Laboratory Services
  - 17.04 Mental Health and Human Services
  - 17.05 Miscellaneous Allied Health Services
  - 17.06 Nursing-Related Services
  - 17.07 Ophthalmic Services
  - 17.08 Rehabilitation Services
  - 17.09 Allied Health, Other
- 18. Health Science
  - 18.01 Audiology and Speech Pathology
  - 18.02 Basic Clinical Health Sciences
  - 18.03 Chiropractic
  - 18.04 Dentistry
  - 18.05 Emergency/Disaster Science
  - 18.06 Epidemiology
  - 18.07 Health Science Administration
  - 18.08 Hematology
  - 18.09 Medical Laboratory
  - 18.10 Medicine
  - 18.11 Nursing
  - 18.12 Optometry
  - 18.13 Osteopathic Medicine
  - 18.14 Pharmacy
  - 18.15 Podiatry
  - 18.16 Population and Family Planning
  - 18.21 Prosectorial Science
  - 18.22 Public Health Science
  - 18.23 Toxicology
  - 18.24 Veterinary Medicine
  - 18.25 Health Science, Other

#### HOME ECONOMICS

19. Home Economics

19.05 Foods and Nutrition Studies

**BIOLOGICAL SCIENCES/LIFE SCIENCES**

26. Biological Sciences/Life Sciences

26.01 Biology, General

26.02 Biochemistry and Biophysics

26.03 Botany

26.04 Cell and Molecular Biology

26.05 Microbiology/Bacteriology

26.06 Miscellaneous Biological Specializations

26.07 Zoology

26.99 Biological Sciences/Life Sciences, Other

**MATHEMATICS**

27. Mathematics

27.01 Mathematics

27.03 Applied Mathematics

27.04 Pure Mathematics

27.05 Mathematical Statistics

27.99 Mathematics, Other

**MULTI/INTERDISCIPLINARY STUDIES**

30. Multi/Interdisciplinary Studies

30.01 Biological and Physical Sciences

30.03 Engineering and Other Disciplines

30.06 Systems Science and Theory

30.08 Mathematics and Computer Science

30.10 Biopsychology

30.99 Multi/Interdisciplinary Studies, Other

**PHYSICAL SCIENCES**

40. Physical Sciences

40.01 Physical Sciences, General

40.02 Astronomy

40.03 Astrophysics

40.04 Atmospheric Sciences and Meteorology

40.05 Chemistry

40.06 Geological and Related Sciences

40.07 Miscellaneous Physical Sciences

40.08 Physics

40.09 Planetary Science

40.99 Physical Sciences, Other

41. Science Technologies

41.01 Biological Technology

41.02 Nuclear and Industrial Radiologic Technologies

41.03 Physical Science Technologies

41.99 Science Technologies, Other

**PSYCHOLOGY**

42. Psychology

- 42.01 Psychology
- 42.0101 Psychology, General
- 42.02 Clinical Psychology
- 42.03 Cognitive Psychology and Psycholinguistics
- 42.04 Community Psychology
- 42.06 Counseling Psychology
- 42.07 Developmental and Child Psychology
- 42.08 Experimental Psychology
- 42.09 Industrial and Organizational Psychology
- 42.10 Personality Psychology
- 42.11 Physiological Psychology/Psychobiology
- 42.12 Psycholinguistics
- 42.13 Psychometrics
- 42.14 Psychopharmacology
- 42.15 Quantitative Psychology
- 42.16 Social Psychology
- 42.99 Psychology, Other

**APPENDIX II**

**CIP CODE** \_\_\_\_\_

**ARKANSAS SCIENCE & TECHNOLOGY AUTHORITY  
COVER SHEET FOR BASIC RESEARCH PROPOSALS**

1. Name of Institution

\_\_\_\_\_

2. Principal Investigator

\_\_\_\_\_

3. Mailing Address and Telephone Number for:  
Institution Contract Office Principal Investigator Co-Principal Investigator

\_\_\_\_\_

\_\_\_\_\_

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E-mail: \_\_\_\_\_ E-mail: \_\_\_\_\_ E-mail: \_\_\_\_\_

\_\_\_\_\_

4. Title of Project

\_\_\_\_\_

5. Requested Amount: \$ \_\_\_\_\_

6. Project Summary:

\_\_\_\_\_

Authorizing Official Principal Investigator

Institution: \_\_\_\_\_ Department: \_\_\_\_\_

Date: \_\_\_\_\_ Date: \_\_\_\_\_

Signature on the application denotes that these individuals agree that the Principal Investigator is a fulltime faculty member. In addition, that the signed individuals have read and understand the rules and guidelines governing the Basic Research Grants Program and agree to the award conditions.

## **APPENDIX III**

ORGANIZATION

PROJECT DIRECTOR

SALARIES, WAGES, AND FRINGE BENEFITS ASTA MATCH TOTAL

TRAVEL

MATERIALS AND SUPPLIES

EQUIPMENT

CONTRACTUAL SERVICES, OTHER

TOTAL DIRECT COSTS

INDIRECT COSTS

TOTAL COSTS

### **INSTRUCTIONS FOR APPENDIX III SUMMARY PROPOSAL**

#### **BUDGET**

##### **I. GENERAL**

Completion of this summary does not eliminate the need to document and justify fully the amounts requested in each category. Such documentation must be provided on additional page(s) immediately following the budget in the proposal and must be identified by line item. The documentation page(s) must be titled "Budget Explanation Page."

Revised budgets must be signed and dated by the authorizing organizational representative, principal investigator, and submitted with the original and two copies.

##### **II. BUDGET LINE ITEMS**

**Matching Funds.** In the space under "Match," specify the source of the matching funds.  
**Salaries, Wages, and Fringe Benefits.** On the Budget Explanation Page, list individually all senior personnel and rates of pay.

**Travel.** Address the type, extent of travel, and its relation to the project. Itemize by destination, cost, and justify travel outside of the United States and its possessions and Canada. Include dates of foreign meetings or visits. Fare allowances are limited to round-trip, economy rates.

**Materials and Supplies.** Indicate types required and estimated costs.

**Equipment.** While items exceeding \$500 and two years' useful life are defined as permanent equipment, it is only necessary to list item and dollar amount for each item exceeding \$1000. Fully justify.

**Contractual Services.** Indicate the name, daily compensation (limited to \$245/day), estimated days of service, and justify.

**Other.** Itemize and justify. Include computer equipment, leasing, publication costs, etc.

**Indirect Costs.** The Authority will not fund indirect costs on Basic Research Grants.

## **BUDGET FORM DEFINITIONS & EXPLANATORY REMARKS**

The “personnel categories” are defined as follows:

Senior Personnel “Principal Investigator(s)” are individual(s) so designated by the grantee institution.

A “Faculty Associate” (faculty member) is an individual other than the Principal Investigator who is considered by the performing institution to be a member of its faculty or who holds an appointment as a faculty member at another institution, and who will participate in the project being supported.

### **Other Personnel**

A “Postdoctoral Associate” is an individual who had received a Ph.D., M.D., D. Sc., or equivalent degree less than five years ago, who is not a member of the faculty of the performing institution, and who is not reported under Senior Personnel above.

“Other Professional” is a person who may or may not hold a doctoral degree or its equivalent, who is considered professional and is not reported as a Principal Investigator, faculty associate, postdoctoral associate or student. Examples of persons included in this category are doctoral associates not reported above, professional technicians, mathematicians, physicians, veterinarians, system experts, computer programmers, and design engineers.

A “Graduate Student” (Graduate Assistant) is a part-time or full-time student working on the project in a research capacity who holds at least a bachelor’s degree or its equivalent and is enrolled in a degree program leading to an advanced degree.

An “Undergraduate Student” is a student who is enrolled in a degree program (part-time or full-time) leading to a bachelor’s degree.

“Support Personnel” include persons working on the project in a non-research capacity, such as secretaries, clerk-typists, drafters, animal caretakers, electricians, and custodial personnel, regardless of whether they hold a degree or are involved in degree work.

## **APPENDIX IV**

### **INSTRUCTIONS FOR THE FINAL PROJECT REPORT**

The final project report is due within sixty days after the expiration of the award. Two (2) copies must be submitted to:

Vice President Research  
Arkansas Science & Technology Authority  
423 Main Street, Suite 200  
Little Rock, AR 72201

#### **Instructions for Part I:**

The identification items must be the same as on the award documents.

#### **Instructions for Part II:**

The final summary (not less than 200 words nor more than one printed page) must be self-contained and intelligible to a scientifically literate reader. Without restating the project title, it must begin with a topic sentence stating the project’s major thesis. The summary must include, if pertinent to the project being described, the following items:

1. The primary objectives and scope of the project.

2. The techniques or approaches used only to the degree necessary for comprehension.
3. The findings and implications stated as concisely and informatively as possible.
4. The potential contribution of the project results to the economic development of Arkansas.

The Authority may disseminate the project summary. Authors should also know that the summary may be used to answer inquiries by nonscientists as to the nature and significance of the research. Scientific jargon and abbreviations should be avoided.