

**The University of Nebraska**  
**Nebraska Research Initiative (NRI)**  
**Request for Proposals – Faculty Research Proposals FY2015**  
**Office of the Provost**

This Request for Proposals (RFP) is a solicitation to the campus chief research officers for faculty research grant proposals. The RFP is an outgrowth of the 2010 Nebraska Research Initiative Review Team Report (7/26/10) which encouraged the support of “high quality research including basic, applied, developmental or clinical, and translation research in fields of strategic importance to the University and the State.” (p. 12)

NRI is an investment by the State of Nebraska designed to build the research capacity within the University of Nebraska consistent with the interests of existing and potential growth areas of business and industry, agriculture, social services, and health care, and to encourage economic growth through specifically targeted research programs. **The purpose of this request for faculty research proposals is to encourage economic growth through specifically targeted research programs.**

**Note: Proposals, with administrative approvals, must be submitted as a PDF to [UNLResearch@unl.edu](mailto:UNLResearch@unl.edu) by 5:00 p.m. on Friday, October 24, 2014. Proposals received after this deadline will be returned to the applicant without review. Questions may be directed to Steve Goddard ([goddard@unl.edu](mailto:goddard@unl.edu)), Associate Vice Chancellor for Research.**

#### **FOCUS AREAS OF RESEARCH FOR NRI FUNDING**

##### Biosecurity (BS)

Subtopics within this area include: environmental quality, sustainability and security; food productivity, food processing safety and toxicology.

##### Nanotechnology and Materials Science (NMS)

Subtopics within this area include: physics and chemistry of new materials; nanoscale processes and structures; materials genome; materials processing; nanoscale electronics manufacturing; microfabrication; and nanomedicine.

##### Water and Environmental Management (WEM)

Subtopics in this area include: contamination and remediation of land, water, and air; global warming and environmental change; environment restoration; ecological processes and adaptations to environmental changes; studies of model species and systems; water quality and health; forecast models, assessments and decision support tools.

##### Sustainable and Renewable Energy (SRE)

Subtopics in this area include: development of renewable energy technologies; next-generation biofuels, chemical processes for production of alcohol from various plants; relevant plant science; advanced vehicle technologies; and processes for constructing new buildings and retrofitting existing building to achieve minimal energy use.

### Molecular Genetics (MG)

Subtopics within this area include: plant sciences (e.g. plant signaling, plant molecular biology, and molecular genetics); animal and human molecular biology and molecular genetics; molecular microbiology, genomics, pharmacogenomics, and bioinformatics.

### Bioengineering (BE)

Subtopics within this area include: drug design and development; new targets of drug development—proteomics; clinical treatment outcomes; developing new biomarkers, animal models, and gene therapies; development of medical devices.

### Health Outcomes and Health Services (HOHS)

Subtopics within this area include: public health, health outcomes, and health services research, including translation of best practices and trials into the community, disease prevention, processes to reduce health costs, improved health education and messaging.

### Science, Technology, Engineering and Mathematics (STEM)

Subtopics in this area include: development of programs to graduate more students in the STEM disciplines; plans for more science and mathematics high school teachers; experiments in the school systems to enhance the numbers of students with interests in STEM disciplines.

### Development and Management of Information Systems (DMIS)

Subtopics in this area include: computer visualization and graphics; software engineering, information assurance, cybersecurity; mathematical modeling, networking including wireless communications, data base management, health informatics, and telemedicine; and bioimaging.

## **ELIGIBILITY**

While all full-time faculty members within the University of Nebraska are eligible to apply, only proposals that represent collaborations by teams of faculty will be considered. Lead PIs cannot have previously received NRI research awards as lead-PIs. Co-PIs may be past recipients of NRI funds as lead-PIs or Co-PIs. All Co-PIs must complete the attached Co-PI NRI disclosure form (See A-4). Preference will be given to proposals that represent new multi-disciplinary and/or multi-campus collaborations.

## **REVIEW PROCESS**

Proposals will be screened at the campus level in the offices of the college deans and chief research officers. Proposals selected by the campuses will be forwarded electronically, in campus priority order, to the Office of the Provost by **November 17, 2014**. Proposals will be evaluated by a committee (a minimum of two) of external faculty experts. These evaluations will be forwarded to a committee of external and internal faculty/administrators with appropriate credentials. The committee's recommendations will be forwarded to the Office of the Provost. Announcements are expected **in the spring semester, 2015**.

## **FUNDING DURATION AND LIMIT**

The funding duration for projects selected through this request for NRI faculty research proposals is to be no more than two years.

The maximum total budget for each proposal is not to exceed \$100,000 over the two year period. It is anticipated that funded projects would be able to start in July 1, 2015; the latest projects could end would be **June 30, 2017**. Additionally, no more than one month of the tenured/tenure-track principal investigator's summer salary can be funded by the project during the entire grant period for faculty on a less than 12-month appointment. (**Note: No extensions will be granted**; funds not used at the end of the project will be transferred back to the Office of the Provost and deposited in the NRI account.)

## **POST AWARD MANAGEMENT AND REPORTING REQUIREMENTS**

Principal investigators will be required to submit project reports on behalf of their teams to their campus chief research officers and the Associate Vice President for Academic Affairs. For projects with a duration of one year, final reports will be required 30 days after the end of the project (July 31, 2016); for projects with a duration of two years, mid-project reports will be required 30 days after the end of the first year of the project (July 31, 2016) and final reports will be required 30 days after the end of the second and final year of the project (July 31, 2017).

## PROPOSAL SUBMISSION REQUIREMENTS

1. Cover/Title Page: NRI Proposal Grant Approval Form (see A-1):

This form identifies the faculty member (principal investigator), and his/her campus address. It also requires signatures of the appropriate administrators, verifying submission approval.

2. Co-Principal Investigator Disclosure of Prior NRI Funds Form (see A-2):

This form asks all Co-PIs to report whether they have previously received NRI funds. Information is requested from those who have received previous funds about the outputs and impacts of their NRI projects.

3. Abstract:

Provide an abstract of the proposal (not more than 250 words) on a separate sheet.

4. External Review Recommendations:

Proposals should include a list of three potential external reviewers and their correct contact information (see A-3). It is critical that these potential external reviewers be able to provide unbiased assessments of the proposal's merits and, therefore, have no conflicts of interest. Conflicts of Interest are defined as:

- All co-authors on publications within the past three years, including pending publications and submissions;
- All collaborators on projects within the past three years, including current and planned collaborations;
- All thesis, dissertation, or postdoctoral advisees/advisors; or
- All persons in your field with whom you have had a consulting/financial arrangement/other conflict-of-interest in the past three years.

5. Waiver of Access to Reviewers' Assessment:

The principal investigator submitting the proposal is required to sign the attached form (see A-4) on behalf of the team, waiving all access to the assessment of reviewers. A proposal without a completed waiver form will be returned. After funding decisions are made, anonymous reviewer comments will be forwarded to the principal investigator.

6. Project Description:

Maximum of 5 pages including diagrams, illustrations and references; single-spaced; font size 12; one-inch margins. The text should be written using general terminology, to the extent possible. Some reviewers will be specialists in the target area, but others will not be. The proposal should include sufficient detail to convince peers of its technical merit and that non-specialists in the field can evaluate its comparative importance with proposals in other areas. The description should cover the following topics:

Purpose

Identify the primary research focus area (see previous pages of this RFP for acronyms) and any secondary research focus areas to which the project will contribute. Relate your

request to growth of research and development in the university and the state, and also show how it relates to your institution's strategic plan for research and economic development for the state. Provide general background and objectives, establishing the basis for the proposed research and place the subject area in a national context.

#### Plan for future external support

Show evidence that there is a Federal or other significant national research funding or industry source that has been contacted and expressed an interest in supporting the research that is being proposed. (Evidence, in this instance, could be documentation of phone conversations or visits to program leaders.) *Also, identify a date (within the maximum two year funding window) by which a proposal for Federal or other significant research funding will be submitted.*

#### Description of the proposed research project

Describe and justify the timeline for the research project and key milestones of the proposed project. Also, if appropriate, provide a description of the dissemination plan and/or plan for obtaining a patent, licensing agreement, or disclosure from the proposed project, and business or commercialization plan.

#### 7. Anticipated Budget:

Outline the budget on the forms provided (A5a and 5b) and provide a separate budget justification of the requested funds. External-to-campus source matches (e.g., other grants, industry support, foundation funds, etc.) are encouraged but university fund matches cannot be included, whether departmental, college, or existing NRI sources. No more than one month of tenured/tenure-leading faculty summer salary can be requested and only for faculty on 9 month appointments through the NRI grant during the entire proposed grant period.

#### 8. Two-page CV or biosketch for the Principal Investigator and all Co-Principal Investigators.

#### 9. Appendices – No appendices are allowed.

### **Criteria for Evaluation of NRI Faculty Research Proposals**

Following is the list of criteria by which the research proposals will be evaluated (see A-6):

1. Scientific merit and relevance (30 points)
2. Qualifications of investigator(s) (25 points)
3. Potential for external funding and quality of dissemination plan (25 points)
4. Economic development potential (10 points)
5. Facilities and budget (10 points)

### **Submission Date**

Proposals should be submitted by the chief campus research officer to the Provost's Office no later than **November 17, 2014**.

# University of Nebraska - Nebraska Research Initiative (NRI) Faculty Research Proposal: Campus Approval Form

Title of Proposal:

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Primary Research Focus Area: \_\_\_\_\_

Secondary Research Focus Area(s) (if applicable): \_\_\_\_\_

Principal Investigator:

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Department, Address and Campus:

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Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

Co-Principal Investigators:

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Administrative Approval:

Dept. Head/Chair of PI: \_\_\_\_\_ Date: \_\_\_\_\_

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

Campus Approval: \_\_\_\_\_ Date: \_\_\_\_\_

**CO-PRINCIPAL INVESTIGATOR\***  
**DISCLOSURE OF PRIOR NEBRASKA RESEARCH INITIATIVE FUNDS**

Co-PI Name: \_\_\_\_\_

Department & Campus: \_\_\_\_\_

- No...** I have not previously received NRI funds as a PI or Co-PI. (Stop and submit the completed form with the proposal.)
- Yes...** I previously received NRI funds as a PI or Co-PI. (Please respond to the items below and submit the completed form and attachments with the proposal.)

**Years NRI Funds were awarded and project titles:**

**List all grant proposals submitted as a result of the work funded by NRI; please indicate which were funded and not funded.** (*Include PIs, title, agency, time period, and full amount requested.*)

**List publications resulting from NRI funding.** (*Include full citations and only papers published or in press.*)

**List patents applied for and awarded and business start-ups as a result of NRI funding and any follow-on external funding for the same project.**

**Describe the impact of the NRI-funded project outside the University, other than economic development.** (200 words or fewer)

\*Required for each co-PI.

**EXTERNAL REVIEW RECOMMENDATIONS**

Please provide the names and correct contact information for three experts who may be recruited as external reviewers for the proposed project. By providing these names, the PI confirms that none of these experts has a conflict of interest with the PI and his/her Co-PIs.

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Institution or Organization: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

Phone: \_\_\_\_\_ Email: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Institution or Organization: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

Phone: \_\_\_\_\_ Email: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Institution or Organization: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

Phone: \_\_\_\_\_ Email: \_\_\_\_\_

**WAIVER**

The undersigned Principal Investigator hereby waives all right of access to the identity of persons who may conduct outside peer evaluations of the Faculty Research proposal on behalf of the proposing team (PI and Co-PIs) for:

**Proposal Title**

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**Dated** this \_\_\_\_\_ day of \_\_\_\_\_, 20 \_\_\_\_.

\_\_\_\_\_  
Principal Investigator

**Please note:** THE PRINCIPAL INVESTIGATOR LISTED AS INVESTIGATOR ON THE COVER PAGE OF THE PROPOSAL MUST SIGN THE WAIVER.

**Year 1**  
**NRI Faculty Research RFP**  
**PROPOSAL BUDGET**

TITLE OF PROPOSAL			
BEGINNING AND ENDING DATES OF PROPOSED PROJECT	Funds Requested From NRI	External* Matching Funds	Total Project Cost
A. PRINCIPAL INVESTIGATOR	\$	\$	\$
B. OTHER PERSONNEL (SHOW NUMBERS IN BRACKETS)			
1. ( ) POST DOCTORAL ASSOCIATES			
2. ( ) OTHER PROFESSIONALS (TECHNICIAN, PROGRAMMER, ETC.)			
3. ( ) GRADUATE STUDENTS			
4. ( ) UNDERGRADUATE STUDENTS			
5. ( ) SECRETARIAL - CLERICAL (IF CHARGED DIRECTLY)			
6. ( ) OTHER			
TOTAL SALARIES AND WAGES (A+B)			
C. FRINGE BENEFITS (IF CHARGED AS DIRECT COSTS)			
TOTAL SALARIES, WAGES AND FRINGE BENEFITS (A+B+C)			
D. EQUIPMENT (LIST ITEM AND DOLLAR AMOUNT.)			
1. _____ \$ _____			
2. _____ \$ _____			
3. _____ \$ _____			
4. _____ \$ _____			
5. _____ \$ _____			
TOTAL EQUIPMENT			
E. TRAVEL 1. DOMESTIC (INCLUDE CANADA, MEXICO, AND U.S. POSSESSIONS)			
2. FOREIGN			
F. PARTICIPANT SUPPORT COSTS			
1. STIPENDS \$ _____			
2. TRAVEL _____			
3. SUBSISTENCE _____			
4. OTHER _____			
( ) TOTAL PARTICIPANT COSTS			
G. OTHER COSTS			
1. MATERIALS AND SUPPLIES			
2. PUBLICATION COSTS/DOCUMENTATION/DISSEMINATION			
3. CONSULTANT SERVICES			
4. COMPUTER SERVICES			
5. OTHER			
TOTAL OTHER COSTS (1 THROUGH 5)			
H. TOTAL COSTS (A THROUGH G)			

\*External to campus sources (e.g., other grants, industry, etc.)

**Year 2**  
**NRI Faculty Research RFP**  
**PROPOSAL BUDGET**

TITLE OF PROPOSAL			
BEGINNING AND ENDING DATES OF PROPOSED PROJECT	Funds Requested From NRI	External* Matching Funds	Total Project Cost
A. PRINCIPAL INVESTIGATOR	\$	\$	\$
B. OTHER PERSONNEL (SHOW NUMBERS IN BRACKETS)			
1. ( ) POST DOCTORAL ASSOCIATES			
2. ( ) OTHER PROFESSIONALS (TECHNICIAN, PROGRAMMER, ETC.)			
3. ( ) GRADUATE STUDENTS			
4. ( ) UNDERGRADUATE STUDENTS			
5. ( ) SECRETARIAL - CLERICAL (IF CHARGED DIRECTLY)			
6. ( ) OTHER			
TOTAL SALARIES AND WAGES (A+B)			
C. FRINGE BENEFITS (IF CHARGED AS DIRECT COSTS)			
TOTAL SALARIES, WAGES AND FRINGE BENEFITS (A+B+C)			
D. EQUIPMENT (LIST ITEM AND DOLLAR AMOUNT.)			
1. _____ \$ _____			
2. _____ \$ _____			
3. _____ \$ _____			
4. _____ \$ _____			
5. _____ \$ _____			
TOTAL EQUIPMENT			
E. TRAVEL 1. DOMESTIC (INCLUDE CANADA, MEXICO, AND U.S. POSSESSIONS)			
2. FOREIGN			
F. PARTICIPANT SUPPORT COSTS			
1. STIPENDS \$ _____			
2. TRAVEL _____			
3. SUBSISTENCE _____			
4. OTHER _____			
( ) TOTAL PARTICIPANT COSTS			
G. OTHER COSTS			
1. MATERIALS AND SUPPLIES			
2. PUBLICATION COSTS/DOCUMENTATION/DISSEMINATION			
3. CONSULTANT SERVICES			
4. COMPUTER SERVICES			
5. OTHER			
TOTAL OTHER COSTS (1 THROUGH 5)			
H. TOTAL COSTS (A THROUGH G)			

\*External to campus sources (e.g., other grants, industry, etc.)

**University of Nebraska**  
**Nebraska Research Initiative Proposal Review Form**  
**Faculty Research**

Criteria	Score
<p><b>Scientific merit and relevance:</b> Does this project address a critical or emerging area that is relevant to the team's campus(es) or the system and Nebraska? Are the conceptual framework, design, methods, and analyses adequately developed, well-integrated and appropriate to the aims of the project? Does the proposal acknowledge potential problems and consider alternatives? Does the proposed project describe novel aims, concepts, approaches or methods?</p> <p style="text-align: right;">Maximum 30 points</p>	
<p><b>Qualifications of the team:</b> Are the PI and co-PIs appropriately trained and qualified to carry out the proposed work? Is the proposed activity appropriate to the experience level of the PI and co-PIs? Does the team represent new collaborations, multiple disciplines and/or more than one campus? Have the co-PIs effectively leveraged previous NRI funds to produce impacts and outcomes?</p> <p style="text-align: right;">Maximum 25 points</p>	
<p><b>Potential for external funding and quality of dissemination plan:</b> Does the proposal articulate a realistic plan for obtaining extramural funding? What is the potential of this application to generate sufficient preliminary data for a competitive application for extramural funding? What is the potential for obtaining extramural funding to continue the proposed work? If appropriate, does the proposal identify a plan for publishing results from the proposed studies in a peer-reviewed journal? If appropriate, what is the potential for publishing the proposed work or for obtaining a patent, licensing agreement, or disclosure from the proposed project? If appropriate, is the business plan or commercialization plan clearly described and relevant?</p> <p style="text-align: right;">Maximum 25 points</p>	
<p><b>Economic Development:</b> Are there potential benefits of the proposed research that will enhance the economic development efforts of Nebraska?</p> <p style="text-align: right;">Maximum 10 points</p>	
<p><b>Facilities and Budget:</b> Does the team have access to the necessary personnel, equipment and facilities and equipment required to successfully complete the proposed studies? Is the budget appropriate for the proposed scope of work? Is the proposed budget sufficiently justified?</p> <p style="text-align: right;">Maximum 10 points</p>	
<b>Total points</b>	