



## Why Apply for a CAREER?

- **Prestigious** research funding for early career investigators
- Provide support at a **sufficient level/duration** to allow for career development as outstanding researchers and educators who effectively integrate teaching, learning, and discovery
- Eligible for **Presidential Early Career Awards for Scientists and Engineers (PECASE)**

## Program Eligibility

- **Hold a doctoral degree** by the submission deadline in a NSF-supported field
- **By October 1 following the deadline:**
  - **Be employed in a tenure-track position as an assistant professor** (or equivalent position) **AND**
  - **be untenured**
- **Have not previously received** a CAREER award (or formerly applied more than 2 times)
- **Department letter confirming eligibility is required**



## Program Overview

- **Deadlines:**
  - July 21, 2014 (Biological Sciences; Computer & Information Science & Engineering; Education & Human Resources)
  - July 22, 2014 (Engineering)
  - July 23, 2014 (Geosciences; Mathematical & Physical Sciences; Social, Behavioral & Economic Sciences)
- **No Co-PIs (or other senior personnel) allowed**
- Proposed work **cannot** duplicate, or be substantially similar to, a proposal already under consideration at NSF from you
- In FY 2014, NSF will support approximately 500 new awards



## Program Focus

- Must have an **integrated research and education plan** as the basis of the proposed work (*this is one of NSF's Core Strategies*)
  - Reflect own disciplinary and educational interests and goals, as well as the needs and context of KU
  - Expectations vary by discipline-contact Program Officer to discuss
- **Education Activities** may be in a broad range of areas and may be directed to any level: K-12 students, undergraduates, graduate students, and/or the general public, but must be related to the proposed research.
- NSF also encourages
  - inter-, multi-, trans-disciplinary approaches
  - international/global dimensions



## Key Considerations when designing your proposal

- **Research Area**
  - Topic: not too closely related to Ph.D./postdoctoral work, but be able to show some background in the field
  - You want to write a proposal where you can make a strong case that YOU are “the right person for the job” – state this EXPLICITLY
- **Scope of project**
  - Must be appropriate for 5-year span
  - Must NOT be too ambitious or broad
  - Suggestion: 3 major aims/tasks to be accomplished by team of 2 graduate students over 5 year life of grant
- **Budget**
  - Minimum: \$400,000 for 5-year duration (CISE, EHR, GEO, MPS, SBE)  
\$500,000 for 5-year duration (BIO, PLR, specific ENG programs)
  - Ask for what you need ... don't be afraid to ask for more than minimum
  - Submit realistic budget justification ... program officer will likely reduce your budget



## Review Criteria

- **Be aware of NSF core strategies:**  
[http://www.nsf.gov/news/strategicplan/nsfstrategicplan\\_2011\\_2016.pdf](http://www.nsf.gov/news/strategicplan/nsfstrategicplan_2011_2016.pdf)
- **Understand NSF Merit Review Process:**  
[http://nsf.gov/bfa/dias/policy/merit\\_review/](http://nsf.gov/bfa/dias/policy/merit_review/)
- **NSF's Standard criteria:**
  - Intellectual Merit: The potential to advance knowledge
  - Broader Impacts: The potential to benefit society and contribute to the achievement of specific, desired societal outcomes.
- **Main Elements for Review:**
  - Potential for the proposed activity to advance knowledge/understanding within its own field or across different fields (Intellectual Merit) and benefit society/advance desired societal outcomes (Broader Impacts)
  - Creative, original, or potentially transformative concepts
  - Well-reasoned/well-organized plan that incorporates a mechanism to assess success
  - PI Qualification
  - Adequate resources



## Resources

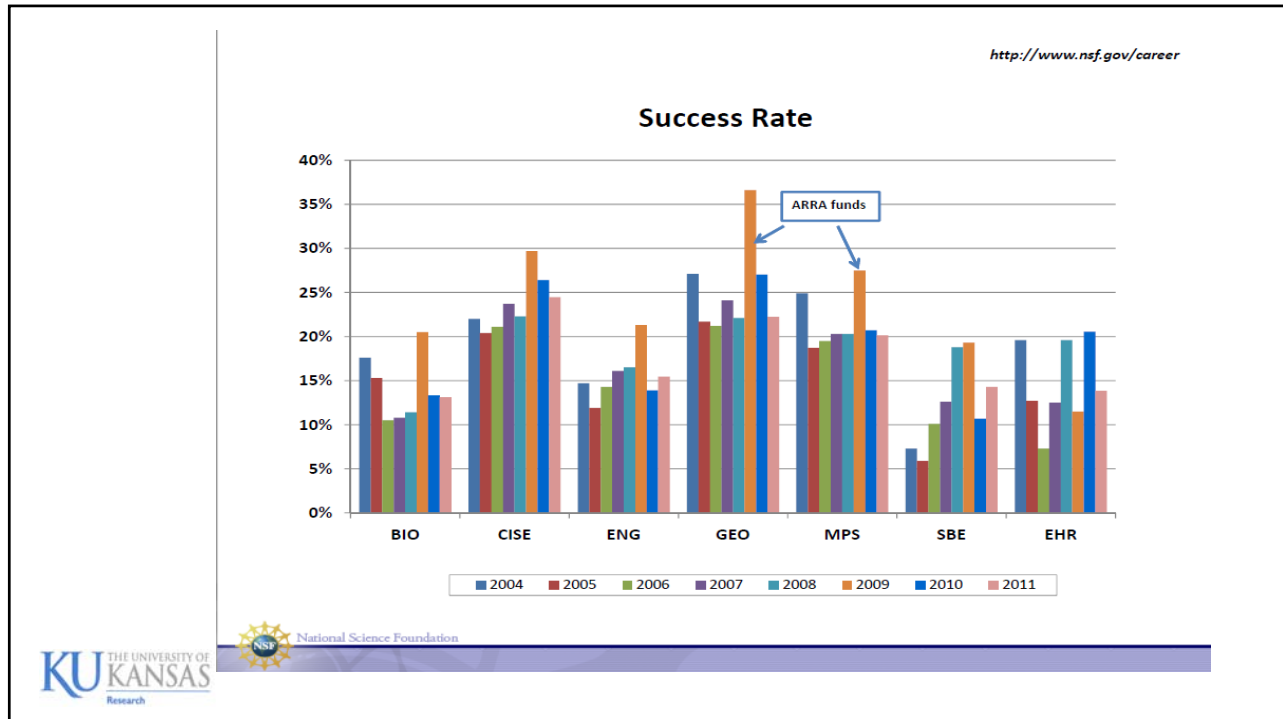
### Agency

- Program Page with Solicitation, FAQs, Contacts, and Supplemental materials:  
[http://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=503214](http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=503214)
- Career-Life Balance (CLB) Initiative:  
[http://www.nsf.gov/publications/pub\\_summ.jsp?ods\\_key=nsf13075](http://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf13075)
- NSF Proposal Preparation Instructions:  
[http://www.nsf.gov/pubs/policydocs/pappguide/nsf13001/gpg\\_2.jsp#IIC2di](http://www.nsf.gov/pubs/policydocs/pappguide/nsf13001/gpg_2.jsp#IIC2di)

### KU

- Pre-Award, Office of Research  
[http://research.ku.edu/proposal\\_preparation\\_review\\_questionnaire](http://research.ku.edu/proposal_preparation_review_questionnaire)
- Center for STEM Learning/Science Education  
<http://www.cstem.ku.edu/about-cse> and <http://kuscied.ku.edu/>
- Your Affiliated Center





## Suggestions for Success

- Ensure this program is the right fit for you.
- Read the program solicitation carefully and follow all instructions.
- Talk with CAREER contact person in the NSF division or program to which you plan to submit.
- Look at what has been funded in your area and review a successful proposal.
- Pay attention to assessment, especially in the education plan.
- Don't forget that you're writing a career development plan and not just a research proposal.
- Clearly define your credentials.
- Get internal feedback before submitting the proposal.

## Panel Discussion

### Panelists:

- Michael Detamore
- Andy Gill
- Tim Jackson
- Leigh Stearns
- Joy Ward



## **KU Office of Research The University of Kansas Center for Research, Inc.**

**Pre-Award Services**  
**Nancy Biles, Assistant Director**  
**Phone: 864-7434**  
**Email: [nbiles@ku.edu](mailto:nbiles@ku.edu)**

## Where can I get help?

### University Research Centers & Institutes Super Centers

#### Higuchi Biosciences Center

*Linda Carlyle ([hbcgrants@ku.edu](mailto:hbcgrants@ku.edu))*

#### Schiefelbusch Institute for Life Span Studies

*Jessica Black-Magnussen  
([lsipd@ku.edu](mailto:lsipd@ku.edu))*

### University Research Centers & Institutes

#### Designated Centers with Proposal Prep Help

##### Center for Environmentally Beneficial Catalysis (CEBC)

*Chris Lyon ([lyon@ku.edu](mailto:lyon@ku.edu))*

##### Center for Remote Sensing of Ice Sheets (CReSIS)

*Jennifer Laverentz ([jenlav@ku.edu](mailto:jenlav@ku.edu))*

##### Center for Research on Learning (CRL)

*Shanna Williams ([shannaw@ku.edu](mailto:shannaw@ku.edu))*

##### Institute for Policy and Social Research (IPSR)

*Nancy Caton Myers ([ipsr\\_preaward@ku.edu](mailto:ipsr_preaward@ku.edu))*

##### Joyce & Elizabeth Hall Center for Humanities

*Kathy Porsch ([hgdo@ku.edu](mailto:hgdo@ku.edu))*

## Proposal Review

**Please allow at least 5 working days for completion of review and approval process**

- Check proposals for compliance with federal, state, university, and agency guidelines
- Review budgets for accuracy
- Provide the institutional signature
- Assist with electronic or hard copy proposal submissions
- Coordinate internal routing

## University Research Centers & Institutes

**Designated Centers without proposal prep assistance**

**Information & Telecommunication  
Technology Center**

*Director: Perry Alexander*

**Biodiversity Institute**

*Director: Leonard Krishtalka*

**Bioengineering Research Center**

*Director: Paulette Spencer*



## KUCR Pre-Award Services [kucrpmgmt@ku.edu](mailto:kucrpmgmt@ku.edu)

- PI Name
- Administrative Unit
- Sponsor Name
- Submission Deadline
- URL of agency solicitation or submission guidelines

PI Proposal Checklist [www.rgs.ku.edu/checklist](http://www.rgs.ku.edu/checklist)

Must be completed for each proposal submission by the  
Principal Investigator only

## Compliance Contacts

- Conflict of Interest
  - Sara Crangle ([coi@ku.edu](mailto:coi@ku.edu))
- Human Subjects Committee (HSC)
  - Stephanie Dyson Elms, [hscl@ku.edu](mailto:hscl@ku.edu)
- Institutional Animal Care and Use Committee (IACUC)
  - Jodi Jones, [iacuc@ku.edu](mailto:iacuc@ku.edu)
- Restricted Research and Export Control
  - Susan MacNally, [ueco@ku.edu](mailto:ueco@ku.edu)

## Compliance Contacts

- Chemicals, Biological Agents/Materials, & Recombinant DNA  
Mike Russell, Dept. of Environment, Health & Safety, [mjrussell@ku.edu](mailto:mjrussell@ku.edu)
- Radiation & Lasers  
Michael Lemon, Dept. of Environment, Health & Safety, [mlemon@ku.edu](mailto:mlemon@ku.edu)

## Proposal Preparation

**Please allow at least 3 working weeks for completion of proposal preparation and approval process**

- Analyze the solicitation
- Provide assistance with on-line registration
- Help prepare the budget
- Coordinate with subcontractors and collaborating institutions
- Prepare the agency application forms
- Review the text for compliance issues and agency requirements
- Obtain signatures
- Assist with electronic or hard copy proposal submissions
- Complete internal routing

## Electronic Research Administration

### Our Purpose:

- Serve as a resource to the KU research community
- Maintain institutional logins for proposal submission sites
- Establish individual logins for proposal submissions
  - Maintain PI logins for NSF FastLane

Pre-Award eRA Team, [preawardera@ku.edu](mailto:preawardera@ku.edu)

Megan Todd, [megantodd@ku.edu](mailto:megantodd@ku.edu)  
Jessica Brown, [jessicabrown@ku.edu](mailto:jessicabrown@ku.edu)

## Cover Sheet

- Title must begin with “CAREER:”
- No Co-PIs allowed
- Beginning Investigator?

### A. Project Summary - 1 page

- 3 Separate Sections
  - Overview
  - Intellectual Merit
  - Broader Impacts
- No more than 4600 characters
- Written in 3<sup>rd</sup> person

### **C. Project Description – 15 pages**

- Developed in consultation with Department Chair
- Describe integration of research and educational activities
- Results from prior NSF support must include Intellectual Merit and Broader Impacts

### **D. References**

- In support of both research and educational aspects of the proposal
- No page limit

## E. Biosketch – 2 pages

- Professional Preparation
- Appointments in reverse chronological order
- Products/Publications (no more than 5+5)
- Synergistic Activities (no more than 5)
- Collaborators & Other Affiliations
  - Collaborators and Co-editors
  - Graduate Advisors and Postdoc
  - Sponsors
  - Thesis Advisor and Postdoc Sponsor

## F. Budget and Justification

- \$400K-\$500K minimum  
depending on program
- Budget justification should follow  
budget categories

## G. Current and Pending

- Project/Proposal Title:
- Source of Support:
- Total Award Amount:
- Total Award Period Covered:
- Location of Project: The University of Kansas, Lawrence, Kansas
- Person-Months Per Year Committed to the Project:

## H. Facilities

- Describe only resources that are directly applicable
- Internal and External
- Can include equipment, personnel
- Do not include any quantifiable financial information

## I. Supplementary Documents

- Departmental Letter (No more than 2 pages)
- Letters of collaboration if applicable
- Postdoctoral Researcher Mentoring Plan if applicable (No more than 1 page)
- Data Management Plan (No more than 2 pages)

## CAREER links

<http://www.nsf.gov/pubs/2014/nsf14532/nsf14532.htm>

FAQs

<http://www.nsf.gov/pubs/2011/nsf11038/nsf11038.jsp>

Directorate and Division Contacts

<http://www.nsf.gov/crssprgm/career/contacts.jsp>

Recent Awards

<http://www.nsf.gov/awardsearch/>



## Where can I find funding opportunities?

- Pivot

[http://research.ku.edu/community\\_of\\_science\\_database](http://research.ku.edu/community_of_science_database)

- KU Research Funding Opportunities Bulletin

[http://research.ku.edu/research\\_grant\\_funding\\_opportunities](http://research.ku.edu/research_grant_funding_opportunities)

Contact [kucrpremgmt@ku.edu](mailto:kucrpremgmt@ku.edu)  
to be added to distribution list

## Questions?

Thank you so much for joining us  
to learn about the NSF CAREER.

Please contact us with questions

**Nancy Biles, Pre-Award**

[nbiles@ku.edu](mailto:nbiles@ku.edu) or 864-7434

**Bob Rummer & Alicia Reed, Research Development**

[bobrummer@ku.edu](mailto:bobrummer@ku.edu) or 864-3149

[amreed@ku.edu](mailto:amreed@ku.edu) or 864-3289

**NSF Faculty Early Career Development (CAREER) Program NSF 14-532**

**FAQs** <http://www.nsf.gov/pubs/2011/nsf11038/nsf11038.jsp>

**Deadlines:**

|                |                    |
|----------------|--------------------|
| BIO, CISE, EHR | Monday, July 21    |
| ENG            | Tuesday, July 22   |
| GEO, MPS, SBE  | Wednesday, July 23 |

**Eligibility - The applicant must:**

- Hold a doctoral degree by the deadline in a field supported by NSF
- Be untenured until October 1 following the deadline
- Have not previously received a CAREER award
- By October 1 following the deadline, be employed in a tenure-track (or tenure-track equivalent) position as an assistant professor (or equivalent title)
- Not have participated in more than three CAREER competitions

**The proposal must contain a Departmental Letter confirming that the candidate meets the eligibility requirements.**

**Cover Sheet**

- Select at least one specific disciplinary program as the Unit of Consideration
- Title must begin with "CAREER:"
- No Co-PIs are allowed

**A. Project Summary – 1 page**

- 3 separate sections (Overview, Intellectual Merit, Broader Impacts) must be uploaded and together should not total more than 1 page (4600 characters)
- Summarize plans for the integration of education and research activities
- Written in third person

**B. Project Description – 15 pages**

- Must address merit review criteria of Intellectual Merit and Broader Impacts in separate statements
- Developed in consultation with department head
- Description of the proposed research project, including preliminary data, specific objectives, methods and procedures, and expected significance of the results
- Description of educational activities including evaluation plans
- Description of integration of research and educational activities
- Results from prior NSF support, if applicable, must include Intellectual Merit and Broader Impacts for each project in separate statements

**C. References – In support of both research and education aspects of the proposal**

**D. Biosketch – 2 pages**

- Include both research and education activities and accomplishments
- Publications or Products are acceptable, but if named Publications, should not include other types of products, no more than 10 – up to 5 closely related plus up to 5 other

#### **E. Budget**

- \$500K minimum for BIO and PLR directorates
- \$500K minimum for CBET, CMMI, ECCS, EEC programs within the ENG directorate
- \$400K minimum for all other directorates
- For additional budget guidance, consult program director or CAREER contact  
<http://www.nsf.gov/crssprgm/career/contacts.jsp>
- Or review list of recent CAREER awards in appropriate discipline  
<http://www.nsf.gov/awardsearch/>
- Support for senior personnel is only allowed for the PI's salary

#### **F. Budget Justification – 3 pages maximum**

- Include all budget categories, in order they appear on FastLane budget
- Provide detailed breakdown of cost basis, necessity

#### **G. Current and Pending – Follow GPG instructions**

#### **H. Facilities - Follow GPG instructions**

#### **I. Supplemental Documents - \*Indicates required doc**

##### **\*Departmental Letter – 2 pages maximum**

- Must include a statement to the effect that the PI is eligible for the CAREER program
- Must include the Chair's name and title below the signature
- Must indicate that PI's proposed research and education activities are supported by and integrated into the goals of the department and organization and department is committed to support and professional development of the PI
- Must describe the relationship between the project, the PI's career goals and job responsibilities and the goals of the department/organization
- Must describe the ways the Chair will ensure mentoring of the PI in career development and integration of research and education

##### **Letters of Collaboration – Only if applicable to the project**

- Letters should be brief (1 page maximum) and should describe only the nature of the collaboration (intellectual contributions, permission to access a site, instrument or facility, offer of samples and materials, logistical support, mentoring of students at a foreign site)
- DO NOT INCLUDE any statements of endorsement or recommendation of the investigator or the project!
- Letters of Recommendation are not permitted and will be removed from the proposal prior to review!
- Some programs suggest a template to use. Check on the program website for more information

##### **Postdoctoral Researcher Mentoring Plan – Only if applicable to the project – 1 page**

If the proposal includes funding for a postdoc, this must be included.

**\*Data Management Plan – 2 pages maximum** - This supplement should describe how the proposal will conform to NSF policy on the dissemination and sharing of research results

A valid Data Management Plan may include only the statement that no detailed plan is needed, as long as the statement is accompanied by a clear justification.

# CAREER Resources

## Helpful Websites

CAREER Program Page (links to solicitation, Contacts, supplemental information):

[http://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=503214](http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=503214)

*Career-Life Balance Supplemental Funding* (anticipated): <http://www.nsf.gov/pubs/2013/nsf13075/nsf13075.jsp>

CAREER PI are invited to submit supplemental funding requests to support additional personnel (e.g., research technicians or equivalent) to sustain research when the PI is on family leave, including funding for up to 3 months of salary support (\$12,000 in salary compensation).

NSF's *Preparing Proposals* Page: <http://www.nsf.gov/funding/preparing/>

NSF's 2014 Proposal Writing Workshop: <http://aries.imse.ksu.edu/nsf/NSF2014/resource.htm>

NSF's 2013 Proposal Writing Workshop: <http://aries.imse.ksu.edu/nsf/nsfcareer2013/Workshopdoc.htm>

NSF Panelist Johna Leddy's (U. of Iowa) Comments on Writing a CAREER Proposal:

<http://research.uiowa.edu/files/research.uiowa.edu/files/ReviewerSlides%28Leddy%29.pdf>

Academic Research Funding Strategies, LLC's 2012 presentation "How to Write a Winning CAREER Proposal":

<https://ipr.osu.edu/sites/ipr.osu.edu/files/NSF%20write%20a%20winning%20NSF%20CAREER%20proposal.pdf>

Copies of successful Earth Science CAREER proposals:

<http://serc.carleton.edu/NAGTWorkshops/earlycareer/research/NSFgrants.html>

### General CAREER-related Reading

Rei, ZJ (Ed). (2007) *NSF CAREER Proposal Writing Tips*.

<http://www.clarku.edu/offices/research/pdfs/NSFProposalWritingTips.pdf>

Hazelrigg, George A. (2009) TWELVE STEPS TO A WINNING RESEARCH PROPOSAL. [http://www.k-state.edu/career/2009/Twelve\\_steps.pdf](http://www.k-state.edu/career/2009/Twelve_steps.pdf)

National Science Foundation. (2004) *A Guide for Writing Proposals*. <http://www.nsf.gov/pubs/2004/nsf04016/start.htm>

### Helpful Reading for Education Plan Development

National Research Council. (2001). *Adding it up: Helping children learn mathematics*. Mathematics Learning Study Committee. Kilpatrick, J., Swafford, J., and Findell, B., Editors.

National Research Council. (2001). *Knowing what students know: The science and design of educational assessment*. Committee on the Foundations of Assessment. Pellegrino, J., Chudowsky, N., and Glaser, R., Editors

National Research Council. (2002). *Scientific research in education*. Committee on Scientific Principles for Education Research. Shavelson, R.J., and Towne, L., Editors.

National Research Council. (2007). *Taking Science to School: Learning and Teaching Science In Grades K-8*. Duschl, R. A, Schweingruber, H. A, and Shouse, A. W., Editors.

National Research Council. (2009). *Learning in Informal Environments: People, Places, and Pursuits*. Bell, P., Lewenstein, B., Shouse, A. W., and Feder, M. A., Editors.

National Research Council. (2010). *Surrounded by Science: Learning Science in Informal Environments*. Fenichel, M. and Schweingruber, H.A., Editors.

Broadening Participation in Graduate Education (2009) - <http://www.cgsnet.org/broadening-participation-graduate-education-0>

National Lab Network - <http://www.nationallabnetwork.org/>

Broadening Participation in Computer Sciences portal - <http://www.bpcportal.org/>

Information on evaluating educational activities, *The 2002 User-Friendly Handbook for Project Evaluation* ([NSF 02-057](#))

## Research Development

Research Development's mission is to encourage collaborative research activities by supporting investigators' ability to pursue key cross-disciplinary research initiatives. We provide proposal development support, create meaningful relationships in the research community, and develop strategies to assist in building KU's research capacity by reducing barriers to research and increasing the competitiveness and quality of proposals. Contact: Bob Rummer, [bobrummer@ku.edu](mailto:bobrummer@ku.edu) or 864-3149

## Pre-Award Services

The Pre-Award Services department strives to facilitate the proposal process for external funding to the KU Lawrence research community, providing assistance to administrators, faculty and staff in preparing, reviewing, approving and submitting competitive proposals for all funding agencies. All proposals, and any pre-proposal with budget information or that needs an institutional approval, must be reviewed before being sent out to a funding agency. Contact: Nancy Biles, [nbiles@ku.edu](mailto:nbiles@ku.edu) or 864-7434

## Center for STEM Learning/Science Education

Provides leadership in science, technology, engineering, and mathematics (STEM) education by:

- Promoting and improving K-12, undergraduate, and graduate STEM learning,
- improving K-12 STEM teacher development, from recruitment and pre-service development to continuing professional development,
- involving all citizens through informal STEM education and research outreach, and
- developing and expanding innovative, interdisciplinary STEM education research

<http://www.cstem.ku.edu/about-cse> and <http://kuscied.ku.edu/>

## Center for Teaching Excellence

Primary purpose is to build community among faculty members and to help them make student learning visible. To fulfill these purposes, we support faculty members and instructional staff in various ways:

- Facilitate meetings with small groups of faculty members to find time-efficient and effective ways to improve student learning.
- Assist faculty with representing the intellectual work they do in teaching, including developing portfolios.
- Host workshops, conferences, and discussion forums on teaching and learning in higher education.
- Publish newsletters, research reports, and other works on the scholarship of teaching.
- Meet individually with faculty and instructional staff who want discuss any facet of teaching and student learning. <http://www.cte.ku.edu>

## Office for Diversity in Science Training

The Office for Diversity in Science Training (ODST) coordinates five University of Kansas / Haskell Indian Nations University minority student programs that are sponsored by grants from the National Institutes of Health, Institute of General Medical Sciences. <http://www2.ku.edu/~odst/>

## KU Research Centers Offering Proposal Services

- *Achievement and Assessment Institute*: Judy Eyerly, [jeyerly@ku.edu](mailto:jeyerly@ku.edu); <http://aai.ku.edu/grant-support>
- *Center for Environmentally Beneficial Catalysis (CEBC)*: 864-6050 or [cebc@ku.edu](mailto:cebc@ku.edu)
- *Center for Remote Sensing of Ice Sheets (CREGIS)*: Jennifer Laverentz, [jenlav@ku.edu](mailto:jenlav@ku.edu)
- *Center for Research on Learning (CRL)*: 864-4780 or [crl@ku.edu](mailto:crl@ku.edu)
- *Hall Center for the Humanities*: Kathy Porsch, [kporsch@ku.edu](mailto:kporsch@ku.edu) or [hgdo@ku.edu](mailto:hgdo@ku.edu)  
<http://www.hallcenter.ku.edu/~hallcenter/hgdo/development/>
- *Higuchi Biosciences Center (HBC)*: 864-5127 or [hbcgrant@ku.edu](mailto:hbcgrant@ku.edu); <http://www.hbc.ku.edu/grant-services-0>
- *Institute for Policy & Social Research (IPSR)*: Nancy Cayton Myers, [ncmyers@ku.edu](mailto:ncmyers@ku.edu); <http://ipsr.ku.edu/grantsup/>
- *Life Span Institute (LSI)*: Jessica Black-Magnussen, [jessica@ku.edu](mailto:jessica@ku.edu);  
<http://www2.ku.edu/~lsi/resources/projectdevelopment.shtml>