

**NKU, OFFICE OF RESEARCH, GRANTS, AND CONTRACTS**  
**PROPOSALS SUBMITTED**  
**FISCAL YEAR 2008 (MAY)**

Department	Principal Investigator	Project Title	Funding Agency	Submission Date	Project Duration	Amount Requested
Associate Provost for Regional Stewardship	Jan Hillard	Regional Stewardship Agreement	Kentucky Council on Postsecondary Education	05/01/2008	7/1/07 - 6/30/08	\$500,000

The regional stewardship funding will enable NKU to provide more faculty expertise and support for the goals of Vision 2015, specifically in the areas of early childhood education, mathematics, informatics, and health-related areas.

Biological Sciences	Richard Durtsche	Acquisition of an Inductively Coupled Plasma Optical Emission Spectrometer (ICP-OES) Element Analyzer	Kentucky NSF EPSCoR Research Enhancement Grant	05/27/2008	8/1/08 - 7/31/09	\$99,705
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The purchase of this ICP-OES Element Analyzer will allow us to prepare samples and detect elements from a variety of environmental and organic sources and determine how they change in type and quantity under varying conditions.

Biological Sciences	Kristi Haik Martines	Acquisition of a Stereology System for Neuroscience Research at Northern Kentucky University	Kentucky NSF EPSCoR Research Enhancement Grant	05/27/2008	9/1/08 - 8/31/09	\$94,674
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Stereology is the science of geometrical relationships between a structure that exists in three dimensions and the images of that structure which are fundamentally two dimensional. This is becoming a standard in the neurosciences for brain imaging and quantification of cells.

Chase College of Law	Lisa Moore	Legal Services to the Poor and Administration of Justice	KY IOLTA Fund IOLTA Public Service Fellowship	05/01/2008	1/1/09 - 12/31/09	\$25,106
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This grant will fund an IOLTA Fellows law student to assist public interest and pro bono attorneys in providing legal services to poor and indigent clients, and to carry out projects for the administration of justice.

Department	Principal Investigator	Project Title	Funding Agency	Submission Date	Project Duration	Amount Requested
Chemistry	Patrick Hare	Photochemistry and Photophysics of Endocrine Disrupting Compounds	The Camille and Henry Dreyfus Foundation, Inc.  Faculty Start-up Awards Program	05/05/2008	8/1/08 - 7/31/13	\$30,000

This research will focus on the photochemistry and photophysics of endocrine disrupting chemicals present in the environment. We will measure quantum yields, lifetimes, and photoproducts in order to understand how these molecules are photodegraded in the environment, and how they may be purposely degraded for waste treatment.

Chemistry	Isabelle Lagidic	Investigating Functional Organo-Nanoclay Synthetic Strategies and Applications as Environmental Adsorbents & Polymer Fillers	Kentucky NSF EPSCoR	05/28/2008	9/1/08 - 8/31/10	\$24,936
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This grant will provide support for undergraduate students to investigate various synthetic strategies for the preparation of novel organoclay nanomaterials and their possible application as environmental adsorbents and polymer filters.

Chemistry	Stefan Paula	Purine Derivatives as Novel Inhibitors of Heat Shock Protein 90	Kentucky NSF EPSCoR  Research Enhancement Grant	05/27/2008	7/1/08 - 6/30/09	\$23,923
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A purification protocol and a bioassay for the ATPase activity of heat shock protein 90 will be developed. A series of purine analogues will be tested for inhibitory potency, and active inhibitors will be used to derive computational models capable of screening large compound databases for inhibitors that could be developed into novel anti-cancer agents.

Communication	Anthony Dieter	NKU Global Media Informatics Initiative	CinciMedia, LLC	05/23/2008	5/23/08 - 12/22/08	\$5,000
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Students will benefit from studying and working abroad, being engaged in the application of high-end 3-D animation software, engaging in the application of animation and narrative principles, and participating on a project management team with a commercial focus.

Department	Principal Investigator	Project Title	Funding Agency	Submission Date	Project Duration	Amount Requested
Computer Science	Yi Hu	Mining Traceability Links for Identifying Insider Threat	U.S. Dept of Defense	05/22/2008	7/1/08 - 12/31/08	\$19,992

University of Arkansas

The objective of this research is to investigate new approaches for detecting insider threats, based on traceability links among different data inside an organization. This will be accomplished by designing algorithms that will alert the system administrators to anomalous activities.

Computer Science	Yi Hu	A Method Employing Transaction Clustering and Traceability Link Mining For Identifying Information Attacks against Databases	Kentucky NSF EPSCoR Research Enhancement Grant	05/27/2008	8/1/08 - 7/31/09	\$24,899
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This project will seek novel approaches to detect malicious activities targeted at corrupting data. The secondary goal of this project is to encourage undergraduate students to pursue computer security related research.

Computer Science	Traian Truta	Achieving Privacy while Preserving Data Utility	Kentucky NSF EPSCoR Research Enhancement Grant	05/27/2008	8/1/08 - 7/31/09	\$24,884
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This project will create and study privacy models that will successfully preserve privacy above a predefined threshold. The secondary goal of this project is to encourage undergraduate research.

Computer Science	James Walden	Web Application Security Metrics through Mining Software Repositories	Kentucky NSF EPSCoR Research Enhancement Grant	05/27/2008	8/1/08 - 7/31/09	\$24,773
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This project will research and document open-source Web Application code to identify and categorize security flaws. This work will also examine open-source software development processes to determine if there are phases which aid the introduction or removal of security flaws.

Department	Principal Investigator	Project Title	Funding Agency	Submission Date	Project Duration	Amount Requested
Computer Science	Hongmei Wang	Handling Uncertainties in Dialogue-Enabled Geographic Informatic Systems	Kentucky NSF EPSCoR Research Enhancement Grant	05/27/2008	9/1/08 - 8/31/09	\$25,000

This research will develop principles for, implement, and assess conversational Geographic Informatic Systems (GIS) that can handle various uncertainty problems through collaborative human-GIS dialogues.

Construction Management	Christine Stiegler	NKU's Teacher Educators' Travel to Summer Conference	U.S. Dept of Education KY Office of Career & Technical Education	05/23/2008	7/1/08 - 7/31/08	\$1,000
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This grant will provide funding for two of NKU's Career and Technical Education Teachers to attend the Kentucky Career and Technical Education Summer Conference in Louisville, Kentucky in July, 2008.

Economics & Finance	Gary Clayton	Web-based Center for Financial Literacy	Certified Financial Planner Board of Standards, Inc.	05/14/2008	8/1/08 - 7/31/09	\$89,780
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The goal of this project is to provide financial literacy to an audience not normally served by a traditional university. This will be accomplished through the use of an internet based, query driven, knowledge based system, short courses and seminars.

Mathematics	Kirsten Fleming	Mathematics Coaching Program	Kentucky Department of Education Teacher Professional Growth Fund	05/01/2008	7/1/08 - 6/30/09	\$469,795
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The Mathematics Coaching Program trains K-12 teachers to train other teachers at their schools. The goal of this program is to give the coaches the skills that he or she will need to help the teachers in their schools optimize their teaching effectiveness and improve student achievement in mathematics.

Department	Principal Investigator	Project Title	Funding Agency	Submission Date	Project Duration	Amount Requested
Mathematics	Bethany Noblitt	Collaborative Research: An Integrated Math Curriculum for Middle Grade Teachers	National Science Foundation	05/19/2008	6/1/09 - 5/31/12	\$52,822

The goal of this project is to provide teachers with the skills and knowledge necessary to teach middle grade mathematics. The investigators will develop an integrated curriculum where the connections among arithmetic, algebra, and geometry are made explicit and explored for the deeper understanding that can be achieved when these connections are realized.

Nursing & Health Professions	Judi Frerick	Northern Kentucky Nursing Research Collaborative: Lead Exposure Control	George A. Renaker (M.D.) Charitable Foundation, Inc.	05/20/2008	1/1/08 - 12/31/09	\$46,870
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Northern Kentucky University and the Northern Kentucky Research Collaborative will expand existing research initiatives focused on minimizing lead exposure to children and will implement a proactive intervention strategy in Campbell and Kenton counties in the northern Kentucky area.

Office of the Dean of Education & Human Services	Paul Wirtz	Transition to Teaching	Kentucky Department of Education	05/28/2008	7/1/08 - 6/30/09	\$227,399
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This is a continuation of an established program that focuses on identifying, training, and mentoring non-certified teacher candidates employed by federally-identified school districts across Kentucky. NKU also serves as the fiscal agent for Eastern Kentucky University and Murray State University.

Physics and Geology	Seyed Allameh	Acquisition of an Instron ElectroPulse E1000 Electrodynamic Testing System for Undergraduate Research and Education	Kentucky NSF EPSCoR Research Enhancement Grant	05/27/2008	9/1/08 - 8/31/09	\$83,343
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The Instron ElectroPulse E1000 Electrodynamic Testing System will be used in the education of Engineering Technology Students, and will also be used for reasearch projects.

Department	Principal Investigator	Project Title	Funding Agency	Submission Date	Project Duration	Amount Requested
Social Work & Human Services	Kathy Howard	UTC/IV-E	Eastern Kentucky University	05/08/2008	7/1/08 - 6/30/09	\$91,954

The University Training Consortium will provide liaison services for NKU and the Department for Community Based Services, with the goal of helping them provide the highest quality of service to their clients. The Training Resource Center will provide training resources, facilities and support to enhance the department's training capacity.

Steely Library	John Schlipp	Creative Thinking: Intellectual Property for Teens and Young Adults	Gannett Foundation	05/27/2008	4/1/08 - 3/31/09	\$5,400
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To raise awareness about intellectual property issues (copyright infringement and plagiarism), we propose to create a multi-channel media project. This project will provide pertinent content and a link to a short educational movie.

Steely Library	John Schlipp	Creative Thinking: Intellectual Property for Teens and Young Adults	Scripps Howard Foundation	05/27/2008	4/1/08 - 3/31/09	\$5,400
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Teacher Education and School Leadership	Sara Eisenhardt	Mathematical Crossroads	Kentucky Department of Education 2009 Mathematics and Science Ptrship	05/30/2008	8/1/08 - 7/31/10	\$347,924
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This is a collaborative project among Crossroads Elementary School, Northern Kentucky University's College of Education, College of Arts & Sciences, and the Kentucky Center for Mathematics. The goals are to improve and expand teachers' mathematical knowledge and to develop a deeper understanding of mathematics education among school administrators.

Department	Principal Investigator	Project Title	Funding Agency	Submission Date	Project Duration	Amount Requested
Teacher Education and School Leadership	Stephen Walker	Kentucky Traineeship in Special Education	Kentucky Department of Education	05/12/2008	7/1/08 - 6/30/09	\$1,000,000

This is a continuation of the traineeship program that has been operated from NKU for the past seven years. It provides tuition support for teachers wishing to become certified in special education or early childhood education at the seven public universities and seven private colleges and universities in Kentucky.

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**Total Number of Proposals: 25**

**Total Funds Requested: \$3,344,579**