2012-13 LaSIP PROFESSIONAL DEVELOPMENT PROJECTS

COVER PAGE

Indicate content focus (Science, LIGO, ELA/Literacy, or Mathematics): **Grade Level(s) Targeted:** 6, 7, and 8 **Number of Targeted Participants:** 30 **Number of Targeted LA GEAR UP Schools:** 15	**School Districts To Be Served:** **Indicate high-need districts with an asterisk *** Caldwell, Monroe City, Morehouse, Ouachita, Richland, and Union Parishes

Name(s) of Submitting Institution(s) of Higher Education (Include Branch/Campus/Other Components):
University of Louisiana at Monroe

Address of Institution of Higher Education (Dept/Unit, Street Address/P.O. Box Number, City, State, Zip Code):
700 University Avenue, Monroe, LA 71209

Title of Proposed Project:
Out Standing in the Field: Phase II

Funds being requested for each funding cycle:

July 1 ,2012- September 30, 2012	October 1, 2012- June 15, 2013
$72, 305.00	$24,675.00

Matching funds from partners:

IHE:	High-need LEA(s):	Other:

The signatories certify that the institution and the proposed project are in compliance with all applicable Federal and State laws and regulations.

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(Form 2- 2012-13 LaSIP PD, Revised 8/2011)

LOUISIANA SYSTEMIC INITIATIVES PROGRAM
2012-2013 PROFESSIONAL DEVELOPMENT PROJECTS

PROJECT ABSTRACT

Name of Institution (Include Branch/Campus): The University of Louisiana at Monroe

College/Department:
College of Education and Human Development
Delta Regional Educators' Academy
700 University Avenue
Monroe, LA 71209

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Title of Project: *Out standing in the field*: Real World Science Experiences for Middle School

The University of Louisiana at Monroe Colleges of Arts and Sciences and Education and Human Development propose Phase II of the successful 2010 LaSIP-funded project, Out Standing in the Field (10-210-ULM-8). Phase II will expand the program to include 6th, 7th, and 8th grades, and add Physical Sciences and Science Literacy to already rich Life Sciences curricula. Like the first phase of the project, middle school teachers will be immersed in real world scientific data-gathering activities at local research sites (Black Bayou Lake National Wildlife Refuge, Restoration Park). In Phase II, care will be taken to align to the common core standards to those scientific practices and cross-cutting concepts that are necessary for teachers, and their students, to "do" science in a real-world setting, as well as provide deep content knowledge in those disciplinary core ideas related to the domains of Physical Sciences and Life Sciences (NRC Framework for K-12 Science). The proposed project will provide teachers and their students the methods and materials to collect and analyze data from state of the art weather stations, by Davis Instruments and school-based weather stations to better understand core disciplinary ideas in life and physical science. During a one-week summer session, whole group and grade level sessions will be conducted by four University of Louisiana at Monroe faculty at each research site and on the University of Louisiana at Monroe campus (40 contact hours). In addition, a 1-day Leadership Institute will be offered during the summer session for district personnel to help build capacity at the district level. During the academic year, two 6-hour Saturday sessions—at the university and at each site—and an online book study (6 contact hours) will help teachers develop and adapt curricular materials based on the ongoing research projects. Project staff and participants will also meet at the beginning and the end of the project to collect pre/post data (60 total contact hours). Data from the first phase of Out Standing in the Field showed significant gains ($p<.05$) in teacher content ($M=11.64\%$) and pedagogical ($M=27.50\%$) knowledge, but classroom observation data suggested the program was less successful in bringing the rich data-gathering activities and artifacts back to the classroom and creating rich experiences for those students able to go out into the field. The goal of Phase II is to streamline the process of sharing teacher-collected artifacts and remote data acquisition from the field with students in the classroom, while at the same time working with teachers to create rich and rigorous field experiences at their sites. Growth in teacher content and pedagogical knowledge will be assessed before and after the project using a validated instrument as well as observations during two on-site visits. While the proposed project will focus on teacher professional development with an optional student component, the goal of the program is to provide at least one research site visit for diverse groups of students in participating classrooms.

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PROJECT PROGRESSION TIMELINE WITH MEASUREABLE OBJECTIVES

Time line	Contact Hours	Action/Activities	Measureable Objective for each activity	Staff Responsible
June 2012	*1 hour*	*First meeting with participants; overview of project; teacher content knowledge pre/test;*	Objectives 1.1; 1.2; 2.2	*All staff present and responsible*
July 2012	*8 hours/5 days (40 hours)*	*Professional development; content focus, assessment, leadership*	Objectives 1.1; 1.2; 2.1; 2.2; 3.3	*Anne Case-Hanks, J. Bhattacharjee content; J. Tate, leadership ; A. Pugh literacy; L. Clark assessment/educational technology*
September 2012	*6 hours*	*Professional development; Black Bayou Lake National Wildlife Refuge:* ***Life Science***	Objectives 1.1; 1.2; 2.1; 2.2; 3.1	*J. Bhattacharjee content; A. Pugh; L. Clark curriculum development*
October 25 2012	*6 hours*	*Professional development; Restoration Park*: **Physical Science**	Objectives 1.1; 1.2; 2.1; 2.2; 3.1	*Anne Case-Hanks. Bhattacharjee content; A. Pugh; L. Clark curriculum development*
January – April 2013		*Field trip to one research site with student teams (optional);*	Objectives 1.1; 1.2; 3.2	*Anne Case-Hanks. Bhattacharjee content;*
January – April 2013		*On site observations (2 per site) with LOTS*	Objectives 1.1; 1.2; 3.1	*Site coordinator; A Pugh;*
January – April 2013	*6 hours*	*Online book study and collaborative website participation (1 hour a week)*	Objectives 1.1; 1.2; 3.1; 3.3	*L. Clark*
May 2013	*1 hour*	*Post/Assessment Teacher content knowledge; LEAP/iLEAP student data in Science*	Objectives 1.1; 1.2; 2.1; 2.2	*L Clark; external evaluator*
TOTAL	***60 hours***			

NARRATIVE

Rationale and Need

The proposed project, "Out Standing in the Field: Phase II," is designed for approximately 30 teachers from 6 parishes in Region VIII (grades 6, 7 & 8). The content focus of the project is life science and physical science taught through the collection and analysis of data on environmental variables at school and local research sites. The institutions involved are the University of Louisiana at Monroe (ULM), the ULM DREAM office (Developing Rigorous Experiential Academic Models), Science Matters state network, and Region VIII LA GEAR UP. The schools participating in the project are located in high-need local educational agencies (LEAs): Caldwell, Morehouse, Ouachita, Richland, and Union parishes and Monroe City Schools.

A compelling need for the proposed project emerged from data collected in Phase I of Out Standing in the Field: Real World Science for Middle School (LaSIP 10-210-ULM-8), a field-based professional development program that leveraged local natural resources by taking middle school teachers and students into the field to do hands-on science investigations in life and earth sciences. Although the professional development program had participation satisfaction rates of 95%-100% and showed significant gains ($p<.05$) in teacher content M=11.64%) and pedagogical (M=27.50%) knowledge, teachers were less successful in bringing the rich data-gathering activities and visual artifacts from the field into the classroom and creating substantive experiences for students out in the field. Classroom observation data (LOT) suggest that teachers in the program would have benefited from more school-based data-gathering activities and the technological support to integrate these and local research data into classroom lessons. In addition, the advent of the National Research Council's Framework for K-12 Science (National Research Council, prepublication 2011), with its emphasis on scientific practices and a limited number of core disciplinary ideas, provided clarity and cohesion for the project in Phase II. The proposed project will provide teachers and their students the methods and materials to collect and analyze data from state of the art weather stations, by Davis Instruments and school-based weather stations to better understand core disciplinary ideas in life and physical science.

Louisiana has the second-highest poverty rate in the United States (18.1%), and the parishes in the project remain some of the poorest in the state (34.4% to 21% people live below the poverty line). In several of the project middle schools, over 90% of the students qualify for free and reduced lunch compared to a state average of 61%. For the past five years (2007-2011), the percentage of middle school students who scored at or above basic in science (29%-54%) was consistently below the state average (53%-62%) as measured by the state standardized tests LEAP and *i*LEAP in the areas of Life Sciences, Physical Sciences, and Science and the Environment categories. Overall, Science and the Environment had the lowest percentage correct for 6^{th}, 7^{th} and 8^{th} grade students in the project area in 2009 and 2010. At the national level, the National Assessment of Educational Progress (NAEP) has shown students in Louisiana consistently scoring lower in Life Sciences and Physical Sciences than the national average with those items that require extended constructed responses having the lowest scores (National Center for Education Statistics, 2006).

Project Design

The proposed project, Out Standing in the Field: Phase II, will address economic and academic challenges in Northern Louisiana, while leveraging those rich natural and scientific resources that exist at Black Bayou Lake National Wildlife Refuge and Restoration Park. Black Bayou is an urban refuge with a 1600-acre shallow lake with cypress, riparian areas and upland mixed pine habitat for wetland-dependent fish and wildlife. Due to its proximity to the university, ULM science faculty have several long-term research projects in the refuge. This refuge also has a Conservation Learning Center, with

room for 30-40 students to learn more about nature interactively. Restoration Park, as the name suggests, used to be a strip mine that has been restored to a functioning wetland. This wetland system now controls flooding from heavy storms in the West Monroe industrial area. Designed wetlands such as this have been documented, to remove pollutants from the water flowing through them (Chan, Bursztyasky, Hantzsche, & Litwin, 1982). The park offers educational, research, and recreational opportunities to faculty and schools in the community. At both of these sites, ULM faculty and their graduate students currently conduct research in the areas of life sciences and physical sciences.

While the project team will use current state standards to develop and implement the proposed professional development, these will be situated within the framework developed by the National Research Council's (NRC) report: A Framework for K-12 Science Education (National Research Council, prepublication 2011). Based on preliminary data analysis of local and state achievement data (see pg. 2), the project will address the following disciplinary core ideas and grade band endpoints that align with current Louisiana state standards and grade level equivalents (in parentheses):

Life Sciences: LS 2: Ecosystems: Interactions, energy, and dynamics

LS 2.A: *How do organisms interact with the living and nonliving environment to obtain matter and energy?*

- By the end of grade 8: Organisms and populations of organisms are dependent on their environmental interactions with other living things and with non-living factors. (LS-M-C3)

LS 2.B: *How do matter and energy move through an ecosystem?*

- By the end of grade 8: Food webs are models that demonstrate how matter and energy is transferred between producers, consumer, and decomposers within an ecosystem. (LS-M-C2)

LS 2.C: *What happens to ecosystems when the environment changes?*

- By the end of grade 8: Ecosystems are dynamic in nature; disruptions to any physical or biological component of an ecosystem can lead to shifts in all its populations. (LS-M-C4)

Earth and Space Sciences: ESS 2: Earth Systems

ESS 2.A: *How do the major earth systems interact?*

- By the end of grade 8: All earth processes are the result of energy flowing and matter cycling within and among the planet's systems. (ESS-M-A12)

ESS 2.C: *How do the properties and movements of water shaper Earth's surface and affect its systems?*

- By the end of grade 8: Water continually cycles among land, ocean, and atmosphere via transpiration, evaporation, condensation, and precipitation as well as downhill flows on land. (ESS-M-A10)

ESS 2.D: *What regulates weather and climate?*

- By the end of grade 8: Weather and climate are influenced by interactions involving sunlight, the ocean, the atmosphere, ice, landforms, and living things. (ESS-M-A11)

One can see how the above standards and grade band endpoints also address broader concepts that cut across disciplines: 1) Patterns; 2) Cause and effect; 3) Scale, proportion and quantity; 4) Systems and systems models; 5) Energy and matter; 6) Stability and change. Most notably, the project will explore the ways in which field-based data collection methods can provide the means for teachers, and their students, to develop their ability to engage in the following scientific practices: 1) asking questions; 2) planning and carrying out investigations; 3) analyzing and interpreting data; 4) using mathematics and computational thinking; 5) constructing explanations; 6) obtaining, evaluating and communicating information.

Within this conceptual framework, the project team will leverage the expertise of university faculty to: 1) create a set of data collection and analysis activities that utilize existing weather stations by Davis Instruments at local research sites; and 2) provide the methods and materials to build student-friendly weather stations at each school site to collect important environmental variables. In addition, the project will revisit and refine those data collection activities introduced in Phase I of the project (e.g., "photo plot", "dip in the pond") and show how these visual and numerical data relate to interrelationships among environmental variables. Both disciplinary and pedagogical topics will be addressed throughout the program, to include research-based strategies, curricular alignment, classroom management and diagnostic assessment strategies (e.g., probes).

Participants in the project will be selected from low performing schools in the target area. Middle School teachers in LA GEAR UP schools will be given priority. The goal of the project is to improve middle school student knowledge, application and synthesis of scientific skills and concepts. The measure of student improvement will be based upon student standardized test performance (*i*LEAP & LEAP), classroom artifacts and teacher surveys. In addition, classroom observations by project personnel will be conducted at least twice during the academic year using the LaSIP Observation Tool (LOT).

Measurable Objectives

The first phase of the proposed project met or exceeded all objectives relating to teacher learning (Goal 1), satisfaction (Goal 2) and leadership (Goal 3). As measured by the Diagnostic Assessment for Middle School Science Teachers (University of Louisville, 2002), the majority of teacher participants (80%) increased their content knowledge in earth and life sciences (1.1), most notably in those areas relating to Atmosphere and Hydrosphere (M=16%) and Structure/Function of Living Systems (M=%18). Analysis comparing scores of those participants who completed both the pre-test and post-test using dependent samples *t*-tests (N=4 for Earth Science; N=10 for Life Science) showed significant growth ($p<.05$) in those areas relating to schematic (M=17.46%) and pedagogical (M=27.50%) knowledge as well as total knowledge in earth and life sciences (11.64%).

Response to the summer and academic year workshops was very positive. All (100%) participants were "very satisfied" with the design and implementation of the workshops (2.1). and the content knowledge provided during the workshops (2.2). The overwhelming majority of participants (90%) rated the summer workshop as "the best professional development" they had ever experienced. Although there was some attrition during the academic year (n=4), 92% of the teachers who completed the program were observed in the classroom, and 80% were rated "high" in the majority of criteria relating to planning and preparation, classroom culture instructional strategies, and literacy as measured by the LOT (3.1). Although 80% of the teachers who completed the program planned field trips with their students, less than half (42%) were able to take students out to one of the local research sites because of restrictions at the district level (3.2); however 92% of the teachers who completed the program presented a paper sharing their work in the project at the Louisiana Science Teachers Association annual conference (3.3). In addition to the stated goals, participants created and used web-based tools that shared resources (http://www.richardscott.us/outstanding.php) and lessons and materials (a university-sponsored Moodle site: http://moodle.ulm.edu/course/view.php?id=10225) with their colleagues.

The following goals and objectives have been formulated to build on the successes and lessons learned in phase one, while expanding the project to include field and school site-based activities related to environmental variables that may increase student science learning and academic achievement.

Goal 1: To increase student achievement in the core disciplinary areas of life science, physical science and literacy in science.

- Goal 1, Objective 1: In-service teachers (grades 6th, 7th & 8th science teachers) will increase core content knowledge in life science and physical science.
- Goal 1, Objective 2: Seventy percent or higher of the students (grades 6th, 7th & 8th) will score at basic or above in at least one of the content domains: life science, physical science.

Goal 2: To plan and implement effective professional development based on high-need LEA(s) data-driven needs and developed using research-based strategies that meet the content and pedagogical needs of participants.

- Goal 2, Objective 1: Ninety percent or higher of the participating in-service teachers will rate the design and implementation of the professional development workshops (summer and academic year) as very satisfactory by the end of the project.
- Goal 2, Objective 2: Ninety percent or higher of the participating in-service teachers will rate the professional development workshops (summer and academic year) as very satisfactory in providing the content knowledge base to integrate scientific inquiry into classroom instruction in the areas of life science and/or physical science.

Goal 3: To increase leadership capacity and pedagogical skills for target schools through integration of scientific inquiry lessons into regular curriculum using site-based (school and local research sites) data collection and analysis.

- Goal 3, Objective 1: Ninety percent of the teachers will develop and implement site-based (school and local research sites) data collection and analysis activities that are rated high in instructional strategies, student engagement and cognitive activity (LOT).
- Goal 3, Objective 2: All teachers who receive district support plan, implement and document student field trip that uses site-based data collection and analysis to one of the local research sites as evidenced by teacher and student field journals.
- Goal 3, Objective 3: Ninety percent of participating districts will form a district leadership team that includes district coordinator and teachers from program as evidenced by written communication with district superintendent.

Specific Subject-Matter Content/Classroom Instructional Strategies

The specific subject-matter content of the project, Out standing in the field, is based upon standardized test data, teacher need, and local resources. The subject-matter content will be guided by the Louisiana Science Framework, which serves as a guide for curriculum and instruction, as well as the National Research Council's (NRC) report: A Framework for K-12 Science Education (National Research Council, prepublication 2011). The comprehensive curriculum and Grade Level Expectations for 6^{th}, 7^{th} and 8^{th} grade will also support instructional decisions and inform the curricular development model. As noted earlier, the focus of the project will be twofold—life and physical science; however, the project will also include Literacy in Science Common Core standards (National Governors Association Center for Best Practices, Council of Chief State School Officers, 2010) that enable students to effectively participate in the scientific community:

<u>Key Ideas and Details</u>

- RST.6-8.1. Cite specific textual evidence to support analysis of science and technical texts.
- RST.6-8.2. Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.
- RST.6-8.3. Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.

Integration of Knowledge and Ideas

- RST.6-8.7. Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).
- RST.6-8.8. Distinguish among facts, reasoned judgment based on research findings, and speculation in a text.
- RST.6-8.9. Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.

The source of scientific content will be real-world data from ongoing research projects at the two local research sites, as well as student-collected data from school site-based instruments. Currently, data on several meteorological variables (e.g., barometric pressure, temperature, humidity, heat index, dew point, moon phase, rainfall, wind speed, direction and chill) are being collected at Black Bayou Lake National Wildlife Refuge as a part of long term monitoring of the local climate. Dr. Bhattacharjee, a COPI, currently monitors the weather station at Black Bayou Lake and uses these data and other environmental data for ecological experiments. This site is especially ideal for demonstrations purposes and for setting up small-scale class projects.

Specific topics within life sciences that could be covered at Black Bayou Lake include, but are not limited to, the following: classifying organisms based on structural characteristics; analyzing food webs; describing and comparing levels of organization of living things within an ecosystem; identifying relationships among plants and animals; describing the changes that can occur in an ecosystem; predicting the impact of changes in species populations on that ecosystem; and illustrating how variations in individual organisms within a population determine the success of the population. While life science instruction will primarily draw on data from the Black Bayou Lake National Wildlife Refuge, these topics will be integrated across sites and grade levels.

Restoration Park does not currently have a data collection system for environmental variables, so it is rather difficult to evaluate trends in micro-climate over time. If funded, the project team will work with park personnel to set up and monitor a weather station that will support this project and future research. For comparison purposes, the Restoration Park system will collect the same meteorological variables (e.g., barometric pressure, temperature, humidity, heat index, dew point, moon phase, rainfall, wind speed, direction and chill) as the system at Black Bayou Lake. Topics in physical science will include, but not be limited to, the following: describing the role of the sun in energy distribution within the atmosphere and biosphere; illustrating the hydrological cycle; describing the climate of the region and identifying important environmental variables within the climate system. Because of the nature of the project, instructional strategies will focus on hands-on data gathering activities, inquiry-based curricular models and the skills necessary to collect, record, read, analyze and interpret data.

Organizing data will be infused into all steps of the instructional process, as will those technological tools and processes that will facilitate both the collection, analysis, and presentation of data. For example, at the Black Bayou Lake National Wildlife Refuge teachers will work side-by-side with scientists to investigate a wetland ecosystem by examining the individual components of the ecosystem (collection of data on biotic and abiotic components of the ecosystem) and putting the pieces together to reveal the delicate balance that keeps wetland ecosystems functioning. First, teachers will collect water samples from the anoxic (dark waters rich in microbial activity) and from open water (deeper areas in the lake) to examine how certain organisms thrive in different habitats and their individual roles in ecosystem functioning. Next, they will collect microclimate data from a weather station at the refuge. Finally, they will download archived data from the station and use it to correlate

local weather patterns with several phenomena such as movement of migratory birds, phenology of plants, productivity of the ecosystem (in terms of predicted biomass change in the ecosystem in relation to seasons).

While in the field, teachers will use paper and electronic resources to record their observations and reflections in a multi-media field journal. In the first phase of the project, over half of the teachers (55%) used field journals regularly in the classroom as a way to uncover, and build on, students' ideas about the natural world. The project will leverage these successes while drawing on the research and development for a pending NSF DRK-12 grant for a "digital field journal" mobile application that utilizes dual-camera tablet technology (e.g., Apple's iPad 2) to support place-based science investigations both in the field and in the classroom (My EyePAD). If funded, My EyePAD will support and sustain the goals of Out Standing in the Field: Phase II by providing a technological tool in SY 2013-2014 that can engage students in meaningful scientific data collection, analysis, and interpretation through real and virtual hands-on investigations at Black Bayou Lake National Wildlife Refuge and Restoration Park.

Faculty-written probes will be used at various points of the instructional process to uncover teacher ideas about science in general and interrelationships among environmental variables in particular. Probes are brief, easily administered activities designed to uncover students' preconceptions about core science concepts for the purpose of informing teaching and learning (Keeley 2005). These probes will be utilized at the diagnostic, formative, and summative stages of the program.

Instructional materials will include those items necessary to collect data in the field (e.g., raw materials needed to assemble individual weather stations, sets of sensors to measure weather variables, printed guidelines on how to use each of those sensors and maintain the weather station, aquatic nets, journals, gloves and baggies) and those materials that will be used as part of the instructional process to model research-based practices (e.g. electronic sensors and associated graphing software, graphic organizers, individual white boards and dry erase markers, weather tracker). In addition, ULM will provide support through the use of digital cameras, video and Smartboard technologies

Delivery Method

The project, Out Standing in the Field: Phase II, is prepared to serve teachers in all eligible low performing schools. As noted earlier, priority will be given to teachers in LA GEAR UP schools. The Project director has already acquired letters of support from superintendents of districts in the target area. Principals in partner districts will be asked to make recommendations for at least two teachers per site to participate in the project. Through partnership agreements with school districts and LA GEAR UP, sites with two or more teachers will be given the opportunity to extend the project to include a field trip to one of the research sites for a sample of students (approximately 60 students per site). Participating teachers will be asked to disseminate knowledge and skills acquired to other faculty members and the scientific community via professional development meetings, district in-services and state networks (Science Matters, NSTA).

Research has shown that the teacher is a critical variable in science education, and curricular reforms require rigorous and relevant professional development that mirrors the activities required of students (Fulton & Britton, 2011). In Phase II, care will be taken to create and implement inquiry-based activities that provide a meaningful context for students and draw on their local environments. Students from all backgrounds and socioeconomic levels learn best when they are actively engaged in scientific inquiry, and when these activities are linked to personal interest or local environments, students from diverse populations show gains in science learning and interest in STEM careers

(Hudicourt-Banres, 2001; Renninger, 2000). Inquiry activities may be first-hand, in which students engage directly with the phenomena they are investigating, or second-hand, in which students engage in inquiry by reading about or viewing data collected by others. Research suggests that a combination of first- and second-hand investigations best support the development of scientific knowledge and reasoning in students (Palancasar, 2001).

To that end, the project will present a 1-week 40-hour summer workshop in which teachers collect data at two local research sites, build their own data collection system for their school site, and retrieve and compare data from both systems as part of a classroom lesson. On Day 1, teachers will spend the day at Black Bayou Lake National Wildlife Refuge, where they will learn how to download, manage and use long-term data sets to create trends that they could use to discuss several concepts in life sciences back in the classrooms. They will also be introduced to two pre-set observation stations that can be used to collect visual and numerical data that relate to the climate data collected by the larger system: 1) a photo-plot that uses a grid to help teachers identify and quantify the species beneath randomly selected points; and 2) a water sampling technique that collects data a different geographical points relating to the type and density of organisms in the bayou.

Day 2 takes teachers to Restoration Park where they will distinguish the difference in microclimates by collecting data such as temperature, dew point temperature, pressure, and evaporation rates. These environmental variables will be discussed in comparative terms from Black Bayou. Most notably, teachers will discover how different surfaces provide different microclimates. This realization will also provide a springboard into what creates different microclimates as well as highlight the need for an analogous observation station to be set-up for data collection at their school site. Also at Restoration Park, teachers will be introduced to two more pre-set observation stations that help them understand the complex relationships within a microclimate: 1) measure the height and diameter of trees at various geographical points to examine patterns in growth; and 2) measure cloud height and make the connection of water in the atmosphere and cloud height. At both research sites, teachers will meet and work with local scientists and download data from university data-logging systems (e.g., Davis Instruments). Teachers will begin each day with a probe (e.g., diagnostic assessment) that relates to that day's activities, classroom management strategies (e.g., bell ringers, motivations) and field journal activities that help facilitate inquiry-based learning and science literacy.

On Day 3, teachers return to the ULM campus to create their own weather station using PVC pipes, thermometers, evaporation pans, barometers and a basic anemometer. The construction of a simple weather station will supply the teachers with the ability to collect important data that relates to climate and ecosystems. The constructed weather stations will then be placed around ULM campus to allow teachers to be immersed within the data collection process. Day 3 is also the day in which district science coordinators or designates come to campus for a Science Leadership Academy. The leadership component will build regional capacity by bringing together science administrators and providing professional development. Best practices and research-based strategies will be modeled to help participants identify instructional practices that will increase student achievement and improve science literacy region-wide. Participants will leave with an "Outstanding" Science Leadership Field Guide, which will help them disseminate information about the goals of the program. In addition, a leadership network of Region 8 Science Points of Contact (PoC) will be established through the National Science Teachers Association's (NSTA) Science Matters.

On Day 4, teachers retrieve the data from their own weather stations, as well as download data from one of the research sites, and work in teams to create one of the four observations stations they encountered in the field (e.g., photo plot, water sampling, measure tree/cloud). Teachers will also work

with faculty in the College of Education and Human Development to create technology-enhanced activities that utilize remote and local data, as well as provide avenues for data analysis activities. The final day brings middle school students from the local school system, as well as representatives from partner districts and the media, to ULM to try out the various data collection instruments and participate in teacher-created activities. A similar exhibition day was presented at the conclusion of the first phase of the project, and resulted in widespread media support that built capacity for the project in the region (Bastrop Daily News: http://www.bastropenterprise.com/news/education/x1887282607/Educators-Get-Educated; KNOE: http://www.knoe.com/Global/story.asp?S=12631953; MyArkLaMiss: http://myarklamiss.com/fulltext/?nxd_id=64145)

Academic year follow-up will consist of two 6-hour Saturday sessions at each research sites, a 6-hour online book study and two 1-hour face-to-face meetings to collect pre/post test data (20 hours total). The purpose of these Saturday sessions will be to collect and organize additional data as needed for classroom instruction, as well as refine teacher understanding in the different areas of science As part of a Service Learning requirement for the undergraduates in the elementary and secondary Science Methods courses, ULM teacher candidates will attend at least one of the Saturday workshops. Teacher candidates will incorporate the hands-on experiments and activities from the workshop with elementary and/or middle school students in their field placement. The purpose of the faculty-led book study is to provide additional content knowledge in the area of environmental variables and systems. For a small fee, teachers will be given an opportunity to receive college credit for participation in the book study as part of the ULM's eTEACH program. ULM faculty will also serve as mentors via a collaborative website on Moodle, which will serve as a clearinghouse for teacher-made lessons, and new data from ongoing research projects.

Collaborative Partnerships and Participant Recruitment

Collaboration between university personnel, district faculty and administrators as well as local organizations is essential to providing needs-based professional development that will effectively meet the learning needs of students. As noted earlier, Phase II of the project builds on the successes and lessons learned during the first phase of Out Standing in the Field (2010-2011). As a direct result of relationships built in the first phase, ULM partnered with a local educational system (Monroe City Schools) to provide two residential STEM camps that took 100 middle school students out into the field and into the lab to "do" science (e.g., Monroe Scholars: Adventures in Slime, 2011). In addition, several participants from the first phase were recruited to serve as part of a Practitioner Panel on the pending NSF DRK-12 grant: My EyePAD (submitted December 2011).

Project staff will work closely with district personnel, principals and participants from the first phase of the project to recruit teacher teams from participating districts. Because of the new content and pedagogical focus of the project, teachers from the first phase will be encouraged to apply for Phase II. Principals and teachers will be contacted during April 2012 in print and email. Principals and past participants will be asked to nominate at least 2 teacher leaders from their site for participation in the program. Preference will be given to teachers from LA GEAR UP and High Need LEAs; care will be taken to include as many schools within these categories to ensure widespread dissemination of the project. Nominated teachers will be required to sign a statement that says they will fully participate in the project (60 contact hours). If all slots are not filled by June 1, 2012, then participants from other low performing public and private schools will be afforded an opportunity to participate (Brumfield vs. Dodd law). The Summer Workshop is tentatively scheduled for July 16 – July 20, 2012. University faculty will work closely with representatives at each of the research sites to coordinate site visits and activities during the workshop, and later during the academic year.

Quality of Key Personnel

The Principal Investigator for the project is Dr. Lynn Clark. She is the director of DREAM and has authored and managed a wide variety of large-scale grant-funded projects in STEM. She has recently been named to a national review panel for NSF Math Science Partnership grants. Dr. Clark has extensive background in curriculum development, including her work on Creative Publications' middle school math program, *MathScape*, and her work with the Library of Congress on the *American Memory Primary Sources* curriculum. Dr. Clark taught Middle School for seven years as part of an interdisciplinary team. She is an Asst. Professor in Curriculum and Instruction in the College of Education and Human Development and coordinator of Secondary Teacher Education. She will be responsible for the administration and evaluation of the project and will team with Science faculty in the delivery of lessons.

Serving as CoPIs for the project are Dr. Joydeep Bhattacharjee, Dr. Anne Case-Hanks, and Dr. Ava Pugh. Dr. Bhattacharjee is an Asst. Professor in Biology in the College of Arts and Sciences. Dr. Bhattacharjee's research on restoring riparian ecosystems has received national and international attention. His research in the past has included coastal vegetation response to disturbance, methods of quantifying recharge of the Ogallala Aquifer, human-forest interaction in the Himalayas of India and Nepal, etc. Currently, Dr. Bhattacharjee and his graduate students are carrying out research on lichens as indicators of air quality at Black Bayou Lake National Wildlife Refuge. In an effort to include Louisiana in the AMERIFLUX network, Dr. Bhattacharjee has been working on securing state and federal funds to establish the first 'carbon flux tower' in the state.

Dr. Anne Case Hanks (CoPI) is a recipient of NSF grants in support of her work in Atmospheric Sciences: "Collaborative Research: EAGER--Deployment of a New Photofragmentation Laser Induced Fluorescence (LIF) Nitrous Acid (HONO) Measurement on FIONA." This was a joint effort between ULM and Georgia Institute of Technology to develop and deploy a photo-fragmentation laser-induced fluorescence instrument to measure ambient nitrous acid. Dr. Anne Case Hanks' experience in educational outreach includes working with local middle school science students to explore Earth Science content as part of a one-week residential camp. She currently serves as a member of the Board of Higher Education for the American Meteorology Society and a member of University Corporation for Atmospheric Research's UNIDATA users committee. She is editor of Atmospheric Physics for the Central European Journal of Geosciences.

Dr. Ava Pugh, Professor of Curriculum and Instruction, has three cognate areas of science education and was the Outstanding Elementary Science Teacher for the state of Mississippi in 1979. She has 35 years of experience teaching, of which 30 of those years are in the area of science methods. Her research areas include Global Warming, The Greenhouse Effect, and Attitudes Toward Science Education. She has published in *Science and Children*, *Science Scope*, *Science Activities*, *Teaching K-8*, and *The Journal of Science Education and Technology*. Dr. Pugh has presented at international, national, regional, state, and local associations.

Completing the project team is Ms. Joyce Tate, district coordinator for Science for Monroe City Schools. Ms. Tate has 28 years teaching experience. She has served as teacher facilitator for Middle School Math/Science Partnership Grants, LaSIP projects as well as Rural Systemic Initiatives. Ms. Tate provides an important perspective to project through her work with the ongoing Monroe City Schools Elementary Math/Science Partnership Grant. She has an extensive background in aligning best practices and research-based instructional strategies with curriculum standards. In addition to her role in developing the project, she will be coordinating the Science Leadership Academy and providing the practitioner perspective during sessions. The Site Coordinator for the project will be Ms. Marty

Somoza who served in that capacity during the first phase. Ms. Somoza brings to the project over 20 years in classroom experience in middle school Science, and the perspective and insights from participating in both phases of the program. The Site Coordinator will work closely with Dr. Ava Pugh to provide on-site support to teachers during implementation. In addition the site coordinator will work with project staff to observe all teachers at least twice during implementation using the LOT.

Project Evaluation

The project evaluation will use quantitative and qualitative data to answer the following questions: 1) Have the project objectives been met? 2) What might be the contributing factors to either meeting or not meeting specific objectives? 3) What do the data suggest about future implementation or expansion of the project? In addition, the data collected throughout the project will provide formative feedback that informs the next step of implementation. Objectives will be assessed using evaluator-developed pre/post surveys, standardized content knowledge measures, classroom and workshop artifacts, and the LaSIP observation tool. This approach aligns with current thinking in professional development evaluation, which addresses not only the levels of learning, "but how and why they occurred" (Guskey, 2000). The following chart provides an overview of the evaluation methods and data analysis and criteria for meeting each objective:

Objective	**Evaluation Methods**	**Timing**	**Data Analysis**	**Evaluation Criteria**
Goal 1, Objective 1: Teacher knowledge	Diagnostic Science Assessments for Middle School Teachers (Life Science/Physical Science);	Before and after project	Paired t-test; qualitative analysis	Significant shifts in at least one area for 90% of participants.
Goal 1, Objective 2: Student knowledge	LEAP and/or iLEAP	After project (Spring 2013)	Descriptive statistics; item analysis and content area	70% of students will score at Basic or higher in one of target areas.
Goal 2, Objective 1: Program implementation	Evaluator survey: satisfaction with program implementation	Before, during and after project	Descriptive statistics; analysis of open-ended items for needs	90% of teachers are satisfied overall
Goal 2, Objective 2: Program content	Evaluator survey: satisfaction with program content	Before, during and after project	Descriptive statistics; analysis of open-ended items for needs	90% of teachers are satisfied overall
Goal 3, Objective 1: Implementation in classroom	LaSIP Observation Tool (LOT): instructional strategies, student engagement and cognitive activity	Twice during project (Fall 2012, Spring 2013)	Analysis of observation instrument interval data	90% of teachers rated HIGH in all categories for one lesson
Goal 3, Objective 2: Student field trip option	Student Field Journals; documentation from district (e.g., transportation request)	During project (Spring 2013)	Descriptive statistics; analysis of field journals for science literacy	100% of teachers who receive district support participate
Goal 3, Objective 3: Teacher Leaders	LSTA registration/district in-service agenda; online participation in Moodle	During project (Fall 2012, Spring 2013)	Descriptive statistics; analysis of online communication for science literacy	100% of teachers

Evaluation Methods

The project will use a validated instrument to measure existing knowledge in life and physical sciences assess gains in teacher and pedagogical knowledge: The Diagnostic Science Assessments for Middle School Teachers (University of Kentucky Louisville, 2002). Each assessment is composed of 25 items—20 multiple-choice and 5 open-response. Pre- and post-test versions of each assessment will be used in paper-and-pencil format and scored by trained faculty at the University of Kentucky. Evaluators will use descriptive and inferential statistics to look for shifts in teacher knowledge in at least one content area.

Student knowledge gains will be assessed using state-mandated test data (e.g., LEAP and *i*LEAP). These data will be analyzed in Spring 2013 to determine the number of students in the program scoring at Basic or above in the areas of Life Science, Earth Science and Physical Science. Throughout the program teachers will be asked to answer paper and online surveys that provide feedback that both informs and evaluates the project. These surveys will examine two main constructs: 1) design and implementation of the project; 2) appropriateness and quality of content. In addition, these surveys will be used to provide insight into preliminary data analysis through open-ended questions. In this way the surveys will help to answer the "how and why" questions generated by the data.

Project Dissemination & Sustainability

A report detailing the project findings will be submitted to LaSIP via the online dropbox. This report will also be available for administrators from participating districts and any other parties interested in the content. The intent of this project is to provide a framework for teachers and their students to connect their school sites to local research sites. To that end, project staff will invite building and district administrators, as well as the media, to attend on-site events. In addition, the mid-week summer Science Leadership Academy and follow-up communication during the academic year will create a network of key science administrators and teacher leaders in Region VIII who will work to support and enhance sustainability of Out Standing in the Field: Phase II goals and objectives. Through these events and programs, project staff and participants will lay the groundwork for expansion of the current project to include additional teachers and districts.

LOUISIANA SYSTEMIC INITIATIVES PROGRAM

PROPOSED PROJECT BUDGET REQUEST - FORM BR

PROJECT NAME: Out Standing in the Field: Phase II

PROJECT CONTENT AND STRAND FOCUS:Biology, Physical Science, Science Literacy

PROJECT DIRECTOR, UNIVERSITY:Lynn Clark, University of Louisiana at Monroe

A	B	C	D	E	F
Reference	**Budget Item**	**Brief Description of Budget Item**	**Funds Requested 7/1/12-9/30/12 Max of $80k for this period**	**Funds Requested 10/1/12-6/15/13**	**Total Funds Requested**
A. University Employed Staff					
1	Lynn Clark, PI	Program development and implementation in summer	3,000.00		3,000.00
2	Ava Pugh, CO-PI	Program development and implementation in summer	3,500.00		3,500.00
3	Joydeep Bhatacharjee, CO-PI	Program development and implementation in summer	4,500.00		4,500.00
4	Anne Case-Hanks, CO-PI	Program development and implementation in summer	4,500.00		4,500.00
5	Beth Ricks, Literacy and Science	Literacy development and implementation in summer	1,700.00		1,700.00
6	Other (TBD, Project Director)	Program development and implementation all year	1,500.00	1,500.00	3,000.00
7			0.00		0.00
8			0.00	0.00	0.00
9		**Total Salaries and Wages**	**$ 18,700.00**	**$ 1,500.00**	20,200.00
10	Fringe Benefits: Rate_25%_____		4,675.00	375.00	5,050.00
11		**Total Salaries, Wages, and Fringe**	**$ 23,375.00**	**$ 1,875.00**	**$ 23,375.00**
B. Staff Not University Employed					
12	Joyce Tate, District Consultant	Program development and implementation in summer	2,500.00	0.00	2,500.00
13	Marty Somoza, Site Coordinator	Oberserve particpants and collect LOT findings	0.00	2,000.00	2,000.00
14			0.00	0.00	0.00
15		**Total Staff Not University Employed**	**2,500.00**	**2,000.00**	**4,500.00**
16		**Total Staff Costs**	**$ 25,875.00**	**$ 3,875.00**	**$ 29,750.00**
C. Participant Support					
17	Stipends	30 participants @ $25 per hour x 40 summer hours and 20 online/Saturday academic year	30,000.00	15,000.00	45,000.00
18	Employer Contributions on Stipends: Enter rate (TRSL 23.7%)		7,110.00	3,555.00	10,665.00
19	Substitute Pay		0.00	0.00	0.00
20	School Resource Materials		0.00	0.00	0.00
21	Project Supplies	Teacher and class materials, scientific equipment and probes	7,250.00	250.00	7,500.00
22	Other		0.00	0.00	0.00
23	Other				
24		**Total Participant Support**	**$ 44,360.00**	**$ 18,805.00**	$ 63,165.00

D. Travel					
25	Staff Travel	$.52 mile x 100 miles for 30 site evaluation trips	0.00	1,560.00	1,560.00
26	Participant Travel		0.00	0.00	0.00
27		**Total Travel Costs**	**0.00**	**1,560.00**	**1,560.00**
E. Indirect Costs					
28	**Direct Costs Minus Participant Support**		**$ 25,875.00**	**$ 5,435.00**	**$ 31,310.00**
29	Indirect Costs	Line 27 x 8%	2,070.00	434.80	2,504.80
30		**TOTAL FUNDS REQUESTED**	**$ 72,305.00**	**$ 24,674.80**	**$ 96,979.80**
F. Core Costs					
31	Core Costs	$ 92,915.00			
32	Number of Participants	30			
33	**Core Cost per Participant**	**$ 3,097.17**			

PROPOSED COST SHARE - FORM CS

LaSIP PROFESSIONAL DEVELOPMENT RFP 2012-2013

PROJECT NAME: Out Standing in the Field: Phase II

PROJECT DIRECTOR, UNIVERSITY: Lynn Clark, University of Louisiana at Monroe

A	B	C	D	E
Description	Type of Matching Funds (Cash or In-Kind)	Partner Providing Matching Funds (University, District, School, or Private)	Source of Funds (Federal, State, Local, or Private)	Cost Share
Staff:				
				0.00
Sub-Total Staff Cost Share				$ -
Participant Support:				
				0.00
Sub-Total Participant Support Cost Share				$ -
Travel and Other Costs:				
				0.00
Sub-Total Travel and Other Cost Share				$ -
Indirect Costs:				$ -
COST SHARING TOTAL				$ -

LaSIP 2012-2013 Professional Development RFP

BUDGET NARRATIVE - FORM BN

PROJECT NAME: Out Standin in the Field: Phase II

PROJECT DIRECTOR/UNIVERSITY: Lynn Clark, University of Louisiana at Monroe

A	B	C	D	E
Section 1				
Form BR Line Item	Staff Name and/or Title	Roles and Responsibilities	Cost Basis	Rationale/Justification
1	Lynn Clark	PI, oversee all aspects of the grant. Provide curriculum development	$3,000 summer stipend	Program development and implementation
2	Ava Pugh	CO-PI, lead science curriculum development	$3,500 summer stipend	Program development and implementation
3	Joydeep Bhattacharjee	CO-PI, provide Biology core content and program implentation	$4,500 summer stipend	Program development and implementation
4	Anne Case-Hanks	CO-PI, proivde Physical Science core content and program implmentation	$4,500 summer stipend	Program development and implementation
5	Beth Ricks	Literacy and Science program development and implementation	$1,700 summer stipend	Literacy development and implementation
6	TBD	Project Director to oversee all logistics of PD and on-going program functions	3,000.00	Program logistics and implementation
Section 2				
Form BR Line Item	Other Expenses	Description or Purpose	Cost Basis	Rationale/Justification
12	District Consultant	Program development and implementation as seen as needed from the district level	$2,500 stipend	Development and Implmentation assessment at district level
13	Site Coordiantor	Site coordinator will work with project staff to observe all teachers at least twice during implementation using the LOT	$2,000 stipend	To oberserve teachers and provide LOT findings
17	Participant Stipends	Teacher participation	$25 hour x 60 hours	For teacher participantion
18	Employer Contributions	TRSL	23.70%	required
21	Project Supplies	Teacher and classroom supplies and science equipment, including weather collection kit supplies for every participant to take back to their classrooms.	7,500.00	For teacher implmentation in their classrooms
25	Travel for site supervisor	Travel to schools to complete 2 site visit evaluations	$.52 mile x 100 miles	Traveling out of region to outling parishes

LOUISIANA SYSTEMIC INITIATIVES PROGRAM
2012-2013 PROFESSIONAL DEVELOPMENT PROJECTS

MEASURABLE OBJECTIVES WORKSHEETS

Measureable Objectives Worksheet (1)

LaSIP Goal 1: ***Increase student achievement on State LEAP21, GEE21, iLEAP, and the national EPAS® and ACT® assessments, and other achievement indicators by spring 2013.***

Who: 6th, 7th & 8th Middle School Science Teachers What: To increase student achievement in the core disciplinary areas of life science, physical science and literacy in science. How: Diagnostic Science Assessments for Middle School Teachers (quantitative analysis); Science probes in scientific inquiry (qualitative) When: before and after project (pre/post design) Proficiency Level: growth in at least one of the content domains: life science, earth science, or environmental science. Growth in skills and concepts related to scientific inquiry overall. **Goal 1, Objective 1:** In-service teachers (grades 6th, 7th & 8th science teachers) will increase core content knowledge in life science, physical science and scientific inquiry.
Who: 6th, 7th & 8th Middle School Students What: to increase core content knowledge in the areas of life science and physical science and literacy in science How: standardized test data (LEAP/iLEAP) When: after implementation of project Proficiency Level: Seventy percent or higher of the students will score at basic or above in at least one of the content domains (current average for target area is 60%) **Goal 1, Objective 2:** Seventy percent or higher of the students (grades 6, 7 & 8) will score at basic or above in at least one of the content domains: life science, earth science, environmental science or scientific inquiry.

LOUISIANA SYSTEMIC INITIATIVES PROGRAM
2012-2013 PROFESSIONAL DEVELOPMENT PROJECTS

Measureable Objectives Worksheet (2)

LaSIP Goal 2: ***Plan effective PD based on the high-need LEA(s)/schools' data-driven needs and developed using research-based PD strategies that will take place in summer institutes, during the academic year (AY), and/or through on-line or web-based assignments and job-embedded activities.***

Who: 6th, 7th & 8th Middle School Science Teachers What: satisfaction with project overall How: Online Surveys (Satisfaction) When: after implementation of the project Proficiency Level: 90% or higher as very satisfied **Goal 2, Objective 1:** Ninety percent or higher of the participating in-service teachers will rate the the design and implementation of the professional development workshops (summer and academic year) as very satisfactory by the end of the project.
Who: 6th, 7th & 8th Middle School Science Teachers What: satisfaction with meeting content knowledge and pedagogical needs How: Online survey (Needs) When: before and after project (pre/post) Proficiency Level: 90% or higher as very satisfied **Goal 2, Objective 2:** Ninety percent or higher of the participating in-service teachers will rate the professional development workshops (summer and academic year) as very satisfactory in providing th content knowledge base to integrate scientific inquiry into classroom instruction in the areas of life science, earth science and/or environmental science.

LOUISIANA SYSTEMIC INITIATIVES PROGRAM
2012-2013 PROFESSIONAL DEVELOPMENT PROJECTS

Measureable Objectives Worksheet (3)

LaSIP Goal 3: Increase leadership capacity and pedagogical skills for target schools through school/district buy-in, school-based implementation, and mentoring during the AY.

Who: 6th, 7th & 8th Middle School Science Teachers

What: develop and implement scientific inquiry lessons using local data that align with and supplement the comprehensive curriculum

How: La SIP Observation Tool (LOT)

When: twice during academic year (Spring 2013)

Proficiency Level: 90% of the teachers will implement at least scientific inquiry lessons that are rated high in instructional strategies, student engagement and cognitive activity (LOT).

Goal 3, Objective 1: Ninety percent of the teachers will implement scientific inquiry lessons using local data that align with and supplement the comprehensive curriculum that are rated high in instructional strategies, student engagement and cognitive activity (LOT).

Who: 6th, 7th & 8th Middle School Science Teachers
What: plan, implement and document student field trip to one of the field research sites
How: multi-media field journals (student & teacher)
When: Spring 2013
Proficiency Level: 100% of the teachers who receive district support will participate in optional student field trip to research site

Who: 6th, 7th & 8th Middle School Science Teachers
What: form a district leadership team
How: communication from superintendent
When: Spring 2013 Monroe
Proficiency Level: 90% of the teachers will attend and participate in conference presentation at LSTA (if proposal is accepted)
Goal 3, Objective 3: Ninety percent of the teachers will attend and participate in local in-service and/or state conference presentation (LSTA).

2012-2013 PROFESSIONAL DEVELOPMENT PROJECTS

CURRICULUM VITAE

Name **Dr. Lynn V. Clark**		**Current Position Title: Assistant Professor** **Project Position Title: PI**	
EDUCATION (Begin with baccalaureate or other initial professional education and include postdoctoral training.			
INSTITUTION AND LOCATION	DEGREE	YEAR CONFERRED	FIELD OF STUDY
University of California, Los Angeles (UCLA)	**Bachelor of Arts, Vocal Performance**	**Spring 1982**	**Music**
University of the Pacific, Stockton, CA	**Master of Education, Curriculum and Instruction**	Spring 1995	**Curriculum Development; Assessment**
Indiana University, Bloomington	**Doctor of Philosophy, Curriculum Theory; Inquiry**	Summer 2008	**Professional Development; Mixed-Methodology**

RESEARCH AND PROFESSIONAL EXPERIENCE: DO NOT EXCEED TWO PAGES. Begin with present position, list in reverse chronological order previous employment, experience, and honors.
EMPLOYMENT HISTORY

- **Assistant Professor**, College of Education and Human Development, University of Louisiana at Monroe, Monroe, LA, 2007 to *currently employed* PK-16+ Coordinator; Professional Development School liaison; GEAR UP & 21st Century Schools liaison; Coordinator of Secondary Education; Director of DREAM
- **IU-NAEP Project Manager**, School of Education, Indiana University, Bloomington, 2005 to 2007; writer and editor of *Learning from NAEP* professional development materials for Mathematics educators; project manager
- **Educational Researcher**, ROCKMAN *et al* Educational Evaluation, Bloomington, IN, 2001 to 2005. External evaluator for U.S. Department of Education Technology Innovation Challenge Grants: TechKnowBuild (Indiana); West Virginia Turnkey Solution/Phase 9 Project.
- **Curriculum Development Project Manager**, ***Classroom Connect***, Foster City, CA, 1997 to 2000. *American Memory: Primary Sources*, writer and editor for multi-media 4-volume series using Library of Congress American Memory collection; *Cyberstories*, writer and editor 4-volume professional development series about teachers and technology.
- **Curriculum Writer/Editor**, Creative Publications, Mountain View, CA, 1995 to 1997. *MathScape: Seeing and Thinking Mathematically*, Content editor for "Gulliver's Worlds" and "The Language of Numbers," Creative Publications, 1997.
- **Curriculum Consultant**, Teacher's Curriculum Institute, Palo Alto, CA, 1992. *History Alive!* Music consultant and writer for Social Studies curriculum.
- **Middle School Teacher (Social Sciences)**, Brookside School, Lincoln Unified School District, Stockton, CA, 1993 to1995.
- **Middle School Teacher (Language Arts/Social Sciences)**, Pacific Middle School, Lincoln Unified School District, Stockton, CA, 1988 to 1993.

AWARDS & GRANTS

- National Science Foundation (submitted Jan 10, 2012) for "EyePAD: Developing a digital field journal for students" ($450,000.00) *principal investigator 2012-2014.*
- Carmel Hill Fund (Jan 2011) for "Accelerated Reader Impact Study" ($16, 500.00) *principal investigator 2011-2012.*
- Monroe City Schools (Jan 2011) for "Monroe City Scholars: Summer Academies ($167, 000.00) *principal investigator 2011-2012.*
- Board of Regents Enhancement Grant (July 2011) for "Diverse Perspectives" ($65,977.00) *principal investigator 2011-2012*
- LaSIP Science Professional Development (Oct. 2009) for "Out standing in the field: Real World Science for Middle School for College of Education and Human Development ($128,000) *principal investigator 2010-2011.*
- Indiana State Department of Education Grant: ISTEP/NAEP Workshops ($70,000) *principal investigator 2006-2008*
- U.S. Department of Education Grant (OESE): State Educational Technology Evaluation ($1,400, 000) *writer and project manager 2003-2006*

RECENT PUBLICATIONS (listed by first author)

Books

Brown, C.A. & Clark, L.V. Eds. (2006). *Learning from NAEP: Professional development materials for teachers of mathematics*. Reston, VA: National Council of Teachers of Mathematics.

Clark, Lynn (1999). *American Memory Primary Sources: Culture*. Foster City, CA: Classroom Connect.

Clark, Lynn (1997). *Cyberstories: Students as Experts,* Foster City, CA: Classroom Connect.

Clark, Lynn (1998). *Cyberstories: Girls and Technology*. Foster City, CA: Classroom Connect.

Journal Articles

Clark, Lynn V. (2010) "Productive Dissonance: A Musical-Analytical Exploration of a Multicultural Education Program." *International Journal of Multicultural Education*. June.

Clark, Lynn V. (2009) "Project SOAR: Launching a Professional Development School." *PDS Partners,* National Association of Professional Development Schools.

Clark, Lynn V. (2001). "The Standards: just a click away." *Instructor,* August.

Research Reports

- "District of Columbia Public Schools—New Leaders for New Schools Leadership Development Pilot Partnership Program" for New Leaders for New Schools, New York, NY, 2011
- "MetLife School Leaders Network/EPIC Partnership: Year I" for MetLife, New York, NY, 2011.
- "Efficacy Study: Scholastic RED," for Scholastic Inc, Research & Development, 2007.

RECENT PRESENTATIONS

International Conferences

"Everyone leaves with a party favor: Cross-cultural discourse in school-university partnerships." for American Educational Research Association Annual Conference. New Orleans, LA, 2011.

"The Swing of the Door: A metaphor and methodology for third space dialogues." for American Educational Research Association Annual Conference. Denver, CO, 2010.

"Teacher Professional Development as a Third Space: Researcher and practitioner dialogues," individual paper at the American Educational Research Association Annual Conference. San Diego, CA, 2009.

"Squashed Frogs, Stalled Cars and Work-a-bees: Metaphors of teachers in a climate of high-stakes testing," individual paper at the American Educational Research Association Annual Conference. San Diego, CA, 2009.

2011-2013 PROFESSIONAL DEVELOPMENT PROJECTS

CURRICULUM VITAE

Name **Dr. Joydeep Bhattacharjee**		**Current Position Title: Assistant Professor** **Project Position Title: CO-PI**	
EDUCATION (Begin with baccalaureate or other initial professional education and include postdoctoral training.			
INSTITUTION AND LOCATION	DEGREE	YEAR CONFERRED	FIELD OF STUDY
Siliguri College, Siliguri, India	**B.S.**	**1996**	**Botany (major)** **Zoology (minor)** **Chemistry (minor)**
North Bengal University, West Bengal, India	**M.S.**	**1999**	**Botany**
Texas Tech Univ., Lubbock, Texas	**Ph.D**	**2005**	**Restoration Ecology (Wildlife Science)**

RESEARCH AND PROFESSIONAL EXPERIENCE: DO NOT EXCEED TWO PAGES. Begin with present position, list in reverse chronological order previous employment, experience, and honors.

APPOINTMENTS

Assistant Professor (tenure-track) *2006- present*.
University of Louisiana, Monroe, LA

Postdoctoral Research Assistant *2005-2006*
Texas Tech University, Lubbock, TX.
Agriculture Research Station, USDA, Lubbock, TX

Doctoral Research Assistant *2001-2005*
Texas Tech University, Lubbock, TX.

Research Associate *2000-2001*
Center for Rural Economy, Appropriate Technology and Environment (CREATE), St. Joseph's College, Darjeeling, India **AND** International Forestry Resources and Institutions (IFRI), Indiana University, Bloomington, IA.

HONORS

Recipient of the International Education Fee Scholarship, Office of International Affairs, Texas Tech University
(Fall 2003).
Distinction in MS, North Bengal University, India (1999).
Honor in BS, Siliguri College, Darjeeling, India (1996).

EXPERIENCE

Reviewer for journals:
Wetlands 2005-present
Environmental Management. 2006-present

PUBLICATIONS

Bhattacharjee, J., J. P. Taylor Jr., and L. M. Smith. 2009. Optimum seedling growth in cottonwoods: a function of neighbor distance. Journal of Arid Environments. (In review)

Bhattacharjee, J., D. Haukos, and J. Neaville. 2009. Influence of biotic and abiotic factors on productivity of a coastal marsh. (Wetlands, in press)

Bhattacharjee, J., J. P. Taylor Jr., L. M. Smith, and D. A. Haukos. 2008. Seedling competition between native cottonwood and exotic saltcedar: implications for restoration. Biological Invasions. DOI:10.1007/s10530-008-9357-4

Bhattacharjee, J., J. P. Taylor Jr., L. M. Smith, and L. E. Spence. 2007. The importance of soil characteristics in determining survival of first year cottonwood seedlings in altered riparian habitats. Restoration Ecology 16:563-571

Bhattacharjee, J., D. Haukos, and J. Neaville. 2007. Vegetation response to disturbance in an intermediate coastal marsh in Texas. Community Ecology 8:15-24.

Bhattacharjee, J., J. P. Taylor Jr., and L. M. Smith. 2006. Controlled flooding and staged drawdown for restoration of native Cottonwoods in the Middle Rio Grande Valley, New Mexico. Wetlands 26:691-702.

Nicholson, K. L., D. M. Ghioca, S. M. Torrence, **J. Bhattacharjee**, A. E. Andrei, J. L. Owen, N. A.Radke, and G. Perry. 2005. Activity patterns of the lizards *Anolis stratulus* and *Ameiva exsul* in the British Virgin Islands. Caribbean Journal of Science 41:870-873.

2012-2013 PROFESSIONAL DEVELOPMENT PROJECTS

CURRICULUM VITAE

Name **Dr. Ava Pugh**		**Current Position Title: Assistant Professor** **Project Position Title: CO-PI**	
EDUCATION (Begin with baccalaureate or other initial professional education and include postdoctoral training.			
INSTITUTION AND LOCATION	DEGREE	YEAR CONFERRED	FIELD OF STUDY
Mississippi State University	**B.S.**	**1974**	**Elementary (Math & Science as Cognates)**
Delta State University	**M.Ed.**	**1976**	**Elementary Ed (School Admin & Elementary Science)**
Delta State University	**Ed.S.**	**1977**	**Elementary Ed (School Admin)**
Mississippi State University	**Ed.D**	**1980**	**Elementary Ed (School Admin & Elementary Science)**

RESEARCH AND PROFESSIONAL EXPERIENCE: DO NOT EXCEED TWO PAGES. Begin with present position, list in reverse chronological order previous employment, experience, and honors.

1. Professional Experience

1984-Present	University of Louisiana at Monroe
1981-1984	Indiana State University Southeast- New Albany
1980-1981	University of South Carolina-Aiken
1978-80	Mississippi State University
1974-78	Greenville Public Schools

2. Publications and Presentations

Pugh, A.; Hutto, C.; Packer, D.; Schween, D.; Mann, R. (2011). A Comparison of Basic Subject Content Exams For Four Consecutive Semesters and Test Scores Before and After for Peer Teaching for Two Semesters. *Mid-South Education Research Proceedings.* Fall msera.org.

Pugh, A. (Fall 2010). Region II Social Studies Fair at University of Louisiana Monroe. *Louisiana Council for The Social Studies Newsletter*.

Pugh, A. (2010). A Comparison of Basic Subject Area Content Exams for Two Consecutive Semesters. *Mid-South Education Research Proceedings.* Fall msera.org.

Pugh, A. (2010). *Chennault Aviation and Military Museum and University of Louisiana Monroe are "Flying High."* Louisiana Council for the Social Studies Newsletter, Fall.

Pugh, A. (2010). *Lesson idea: Holiday Poem.Louisiana Council for the Social Studies Newsletter, Fall.*

Pugh, A.; Washington, J. (February, 2010). *Service Learning for Candidates and Elementary Students from Two Schools.* Research paper accepted for The American Association of Behavioral and Social Sciences, Las Vegas, Nevada.

Pugh, A.; Washington, J. (January, 2010). *An Analysis of Peer Teaching.* Research paper presented to the Hawaii International Conference on Education, Honolulu, Hawaii.

Pugh, A.; Washington, J. (January, 2010). *Getting Parents and the Community Involved at Your School.* Research paper presented to the Hawaii International Conference on Education, Honolulu, Hawaii.

Pugh, A.; Groves, F., (2010). Using Synchronous Online Instruction to Promote Discussion. *Online Classroom*, January, 3, 5.

Pugh, A.; et.al (2009) Ace's Adventures, ULM Publications, December.

Pugh, A.; Washington, J. (February, 2009). *Teaching Science and Social Studies Methods.* Research paper presented to the Louisiana Academy of Sciences, Hammond, Louisiana.

Pugh, A.; Washington, J.; Mann, R. (February, 2009). *Diversity in the Classroom.* Research paper accepted for The American Association of Behavioral and Social Sciences, Las Vegas, Nevada.

Pugh, A.; Washington, J. (January, 2009). *Service Learning with Technology.* Research paper accepted for the Hawaiian International Conference on Education, Honolulu, Hawaii.

Pugh, A.; Washington, J. (November, 2008). *The Effects of Peer Teaching on Social* Studies *Achievement by Elementary Preservice Majors Across Three Semesters.* Research paper presented to the Mid-South Education Research Association Annual meeting, Knoxville, Tennessee.

Pugh, A.; Groves, F. (November, 2008). *The Sky is Falling! No, Everything is Wonderful! Climate Change Controversies and How to Teach About Them.* Research paper presented to the Mid-South Education Research Association Annual meeting, Knoxville, Tennessee.

Pugh, A.; Groves F. (November, 2008). *Using synchronous online interaction to promote dialogue and engagement with subject matter in college courses.* Research paper presented to the Mid-South Education Research Association Annual meeting, Knoxville, Tennessee.

Pugh, A.; Washington, J. (2007, November). *"Snapshots of Mathematics Achievement".* Mid-South Education Research Association Proceedings.

Pugh, A.; Washington, J.; (2007, November). *The Effects of Peer Teaching on Science Achievement of Elementary Preservice Education Majors.* Mid-South Education Research Association Proceedings.

Pugh, A.: Washington, J.; Beutner, M. (2007, November). *Lunar Cookies, Molecular Structures*, *Trade Books, and Technology Activities for the Science Classroom.* Workshop presented to the National Science Teachers Association Convention in Detroit, Michigan.

Pugh, A.; Washington, J.; Casey, H. (2006, December). *Ice Cream, Trade Books, Math Activities, and Technology…Using Food to teach Science.* Workshop presented to National Science Teachers Association Convention, Salt Lake City, Utah.

Pugh, A.; Washington, J.; Casey, H.; Watts, R. (2006, November) *An Analysis of Teacher Education Students' Conceptual Knowledge of the Ozone Layer and its Depletion.* Research paper presented to the Mid-South Education Research Association Convention, Birmingham, Alabama.

Pugh, A.; Washington, J.; Casey, H. (2005,October). *Ice Cream, Cookies, Bugs, and Molecular Structures-Using Food to Teach Science Concepts.* Workshop presented to the National Science Teachers Association Convention, Hartford, Connecticut.

Pugh, A. (2005, February). *What Students Prefer.* Paper presented to the Southwest Educational Development Laboratory Annual meeting, Albuquerque, New Mexico.

Pugh, A; Groves, F.; Washington, J. (2004, November). *The Effectiveness of Collaborative Investigative Discussion for Promoting a Better Understanding of the Ozone Layer.* Paper presented to the Mid-South Education Research Association Convention Gatlinburg, Tennessee.

Pugh, A. & Groves, F., (2002). Cognitive Illusions as Hindrances to Learning Complex Environmental Issues. *Journal of Science Education and Technology,* vol. 11, no 4, 381-390.

3. Other Scholarly Activities/Awards:

Endowed Chair for the Bell South Science Education Award-2008/2009/2010/2011
Outstanding Service Award for the Louisiana Education Consortium-Spring 2011
Outstanding Teaching/Service Award for the College of Education and Human Development-2011
Outstanding Award for Louisiana Council for the Social Studies-2011
Outstanding Service Award for Mid-South Education Research Association-2011
Outstanding 25-Year Counselor for Kappa Delta Pi (1987-2012)
Endowed Chair for Elementary Education-Frances Davis Hammond-2005/2006/2007
Outstanding Professor for the College of Education and Human Development-2005
Outstanding Elementary Science Teacher for the State of Mississippi-1979

2012-2013 PROFESSIONAL DEVELOPMENT PROJECTS

CURRICULUM VITAE

Name **Dr. Anne T. Case Hanks**		**Current Position Title: Assistant Professor** **Project Position Title: PI**	
EDUCATION (Begin with baccalaureate or other initial professional education and include postdoctoral training.			
INSTITUTION AND LOCATION	DEGREE	YEAR CONFERRED	FIELD OF STUDY
University of Toledo	**B.S.**	**2001**	**Chemistry with Honors (*cum laude*)**
Georgia Institute of Technology	**M.S.**	**2006**	**Earth and Atmospheric Sciences**
Georgia Institute of Technology	**Ph.D.**	2008	**Earth and Atmospheric Sciences**

RESEARCH AND PROFESSIONAL EXPERIENCE: DO NOT EXCEED TWO PAGES. Begin with present position, list in reverse chronological order previous employment, experience, and honors.

Position Held:

2008 – present Assistant Professor of Atmospheric Sciences, University of Louisiana at Monroe

Refereed Publications:

Boxe CS, Colussi AJ, Hoffmann MR, Tan D, Mastromarino J, **Case A.T.**, Sandholm ST, Davis DD. Multiscale ice fluidity in NO_x photodesorption from frozen nitrate solutions, *J. Phys. Chem A*, 107 (51): 11409-11413 DEC 25 2003

Liao W., **A. T. Case,** J. Mastromarino, D. Tan, J. E. Dibb (2006), Observations of HONO by laser-induced fluorescence at the South Pole during ANTCI 2003, *Geophys. Res. Lett.*, 33 (9), 2006

A. T. Case, D. Tan, R. E. Stickel, and J. Mastromarino, Narrow-linewidth, tunable ultraviolet, Ti:sapphire laser for environmental sensing, *Appl. Opt.* **45**, 2306-2309, 2006

Hennigan, CJ, A.P. Sullivan, C.I. Fountoukis, A. Nenes, A. Hecobian, O. Vargas, **A.T. Case Hanks**, L. G. Huey and R.J. Weber, Comparing the Volatility of Newly Formed Organic Aerosol to Secondary Nitrate in Mexico City, Atmos. Chem. Phys., 8, 3761-3768, 2008

Warneke C., J.A. de Gouw, L. Del Negro, J. Brioude, S. McKeen, H. Stark, W.C. Kuster, P.D. Goldan, M. Trainer, F.C. Fehsenfeld, C. Wiedinmyer, A.B. Guenther, A. Hansel, A. Wisthaler, E. Atlas, L.G. Huey, **A.T. Case Hanks**, Determination of Biogenic Emissions in the Eastern United States and Texas and Comparison with Biogenic Emission Inventories, *Journal of Geophysical Research Atmosphere, September 2009*

M. J. Alvarado, J. A. Logan, J. Mao, E. Apel, D. Riemer, D. Blake, R. C. Cohen, K.-E. Min, A. E. Perring, E. C. Browne5, P. J. Wooldridge, G. S. Diskin, G. W. Sachse, H. Fuelberg, W. R. Sessions, D. L. Harrigan,

G. Huey, J. Liao, **A. Case Hanks**, J. L. Jimenez, M. J. Cubison, S. A. Vay, A. J.Weinheimer, D. J. Knapp, D. D. Montzka, F. M. Flocke, I. B. Pollack, P. O. Wennberg, A. Kurten, J. Crounse, J. M. St. Clair, A. Wisthaler, T. Mikoviny, R. M. Yantosca, C. C. Carouge, and P. Le Sager, Nitrogen oxides and PAN in plumes from boreal fires during ARCTAS-B and their impact on ozone: an integrated analysis of aircraft and satellite observations, *Atmos. Chem. Phys.*, 10, 9739-9760, 2010

Judith Berner, Adam Monahan, Richard Anyah, Larissa Back, Joseph Biello, **Anne Case Hanks**, Sen Chaio, Chris Danforth, Erich Fischer, Aime Fournier, Oksana Guba, Ethan Gutmann, Joshua Hacker, Mimi Hughes, Akm Islam, Christiane Jablonowski, Boualem Khouider, Dmitri Kondrashov, Arlene Laing, Vasubandhu Misra, Paul Nutter, Cecile Penland, Pallav Ray, Ian Ross, Prashant Sardeshmukh, Russ Schumacher, Alemu Tadesse, Andrea Taschetto, Simone Tilmes, Maria Tsukernik, Geoffrey Vallis, Warren Washington, Ming Zhao, Lei Zhou, Exploring the Weather and Climate Connection, *submitted to Bulletin of American Meteorology Society, Feb 2010*

A.T. Case Hanks and D. Tan, A 1-D coupled surface layer-snowpack model for HONO at South Pole, *submitted to Atmospheric Chemistry and Physics*, *December 2011* (manuscript # acp-2011-976)

Synergistic Activites:

2006 Instructor for course on Earth Science for Middle School Teachers
2006 Instructor for course on Ocean Science for Middle School Teachers
2006 Instructor for course on Science and Young Children for Primary School Teachers
2010 *CEAM:* Formal Intercomparison of Nitrous Acid: FIONA – responsible for instrument development, deployment, and data
2011 Monroe City Scholars Summer Science Institute –College Investigation Leader

LOUISIANA SYSTEMIC INITIATIVES PROGRAM
2012-2013 PROFESSIONAL DEVELOPMENT PROJECTS

CURRENT AND PENDING SUPPORT

List all State and federal funding support for each IHE faculty member during the funding cycle. Duplicate this form for each IHE faculty member, and use additional sheets as necessary.

NAME OF FACULTY: Joydeep Bhattacharjee

Status of Support: ___Current _X_ Pending __Submission Planned in Near Future

Project/Proposal Title: **Center for Biometerology; instrumentation for long-term CO_2 and H_2O flux monitoring and bottomland hardwood forest**

Source of Support: **Louisiana Board of Regents**

Award Amount (or Annual Rate): **$86,661** Period Covered: **09/01/12 – 08/31/13**

Location of Activity: **ULM/Russell Sage Wildlife Management Area, Monroe, LA**

Person-Months or % of Effort Committed to the Project: __0___Cal Yr _0__Acad __0___Summ

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Status of Support: ___Current _ x_ Pending _ Submission Planned in Near Future

Project/Proposal Title: **My EyePAD: A Digital Field Journal**

Source of Support: **National Science Foundations**

Award Amount (or Annual Rate): **$449, 734.00** Period Covered: **2012 - 2015**

Location of Activity: **University of Louisiana at Monroe**

Person-Months or % of Effort Committed to the Project: _____Cal Yr _1.35PM__Acad __10%___Summ

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Status of Support: ___Current __Pending Submission Planned in Near Future

Project/Proposal Title:

Source of Support:

Award Amount (or Annual Rate): Period Covered:

Location of Activity:
Person-Months or % of Effort Committed to the Project: _____Cal Yr ___Acad _____Summ

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Status of Support: ___Current _ _Pending Submission Planned in Near Future
Project/Proposal Title:
Source of Support:
Award Amount (or Annual Rate): Period Covered:
Location of Activity:
Person-Months or % of Effort Committed to the Project: _____Cal Yr __Acad _____Summ

NAME OF FACULTY: Dr. Anne Case-Hanks

Status of Support: ___Current _X_ Pending __Submission Planned in Near Future

Project/Proposal Title: **Center for Biometerology; instrumentation for long-term CO_2 and H_2O flux monitoring and bottomland hardwood forest**

Source of Support: **Louisiana Board of Regents**

Award Amount (or Annual Rate): **$86,661** Period Covered: **09/01/12 – 08/31/13**

Location of Activity: **ULM/Russell Sage Wildlife Management Area, Monroe, LA**

Person-Months or % of Effort Committed to the Project: __0___Cal Yr _0__Acad __0___Summ

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Status of Support: ___Current _ x_ Pending _ Submission Planned in Near Future

Project/Proposal Title: **My EyePAD: A Digital Field Journal**

Source of Support: **National Science Foundations**

Award Amount (or Annual Rate): **$449, 734.00** Period Covered: **2012 - 2015**

Location of Activity: **University of Louisiana at Monroe**

Person-Months or % of Effort Committed to the Project: _____Cal Yr _1.35PM__Acad __10%___Summ

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Status of Support: ___Current __Pending Submission Planned in Near Future

Project/Proposal Title:

Source of Support:

Award Amount (or Annual Rate): Period Covered:

Location of Activity:

Person-Months or % of Effort Committed to the Project: _____Cal Yr ___Acad _____Summ

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Status of Support: ___Current _ _Pending Submission Planned in Near Future
Project/Proposal Title:
Source of Support:
Award Amount (or Annual Rate): Period Covered:
Location of Activity:
Person-Months or % of Effort Committed to the Project: _____Cal Yr __Acad _____Summ

NAME OF FACULTY: Dr. Ava Pugh

Status of Support: _X_Current _ _ Pending __Submission Planned in Near Future

Project/Proposal Title: **Diverse Perspectives**

Source of Support: **Louisiana Department of Education; Board of Regents**

Award Amount (or Annual Rate): **$65,977** Period Covered: **07/01/11 – 06/30/12**

Location of Activity: **Monroe, LA**

Person-Months or % of Effort Committed to the Project: __0___Cal Yr _0__Acad __0.01__Summ

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Status of Support: ___Current _ x_ Pending _ Submission Planned in Near Future

Project/Proposal Title: **My EyePAD: A Digital Field Journal**

Source of Support: **National Science Foundations**

Award Amount (or Annual Rate): **$449, 734.00** Period Covered: **2012 - 2015**

Location of Activity: **University of Louisiana at Monroe**

Person-Months or % of Effort Committed to the Project: _____Cal Yr _1.35PM__Acad __10%___Summ

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Status of Support: ___Current __Pending Submission Planned in Near Future

Project/Proposal Title:

Source of Support:

Award Amount (or Annual Rate): Period Covered:

Location of Activity:

Person-Months or % of Effort Committed to the Project: _____Cal Yr ___Acad _____Summ

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Status of Support: ___Current _ _Pending Submission Planned in Near Future
Project/Proposal Title:
Source of Support:
Award Amount (or Annual Rate): Period Covered:
Location of Activity:
Person-Months or % of Effort Committed to the Project: _____Cal Yr __Acad _____Summ

NAME OF FACULTY: Dr. Lynn Clark

Status of Support: _X_Current _ _ Pending __Submission Planned in Near Future

Project/Proposal Title: **Diverse Perspectives**

Source of Support: **Louisiana Department of Education; Board of Regents**

Award Amount (or Annual Rate): **$65,977** Period Covered: **07/01/11 – 06/30/12**

Location of Activity: **Monroe, LA**

Person-Months or % of Effort Committed to the Project: __0___Cal Yr _0__Acad __0.01__Summ

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Status of Support: ___Current _ x_ Pending _ Submission Planned in Near Future

Project/Proposal Title: **My EyePAD: A Digital Field Journal**

Source of Support: **National Science Foundations**

Award Amount (or Annual Rate): **$449, 734.00** Period Covered: **2012 - 2015**

Location of Activity: **University of Louisiana at Monroe**

Person-Months or % of Effort Committed to the Project: _____Cal Yr _1.35PM__Acad __10%___Summ

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Status of Support: ___Current __Pending Submission Planned in Near Future

Project/Proposal Title:

Source of Support:

Award Amount (or Annual Rate): Period Covered:

Location of Activity:

Person-Months or % of Effort Committed to the Project: _____Cal Yr ___Acad _____Summ

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Status of Support: ___Current _ _Pending Submission Planned in Near Future
Project/Proposal Title:
Source of Support:
Award Amount (or Annual Rate): Period Covered:
Location of Activity:
Person-Months or % of Effort Committed to the Project: _____Cal Yr __Acad _____Summ

LOUISIANA SYSTEMIC INITIATIVES PROGRAM
2010-2011 PROFESSIONAL DEVELOPMENT PROJECTS
Memorandum Of Agreement Among Partners

University of Louisiana at Monroe (Name of Sponsoring Institution or Institutions)	*Out standing in the field:* Real World Science Experiences for Middle School (Project Title)
Dr. Lynn V. Clark (CEHD) (Principal Investigator)	Dr. Joydeep Bhattacharjee (COAS) Dr. Ava Pugh (CEHD) Dr. Ann Case-Hanks (COAS) (Co- Principal Investigator)

This cooperative agreement reflects the overall commitment as well as the specific responsibilities and the roles of each of the partners listed below. This MOA documents the actual working partners who are responsible for contributing to the writing of the proposal, collecting and reporting data, and for the day to day success of the project.

Type of Partner	Name of Active Partner	Title	IHE or District & School	Signature
Teacher Preparation Program ***(Required)***	Dr. Sandra Lemoine	Dean	University of Louisiana at Monroe	D. Schween for S. Lemoine
Dept./School of Arts & Sciences ***(Required)***	Dr. Michael Camille	Dean	University of Louisiana at Monroe	
High-need Local Education Agency/Agencies ***(LEA – Required)***	Kathleen Harris	Superintendent	Monroe City Schools	Kathleen Harris
Additional Targeted Partners DREAM	Dr. Lynn Clark	Director, DREAM	University of Louisiana at Monroe	

MONROE CITY SCHOOL DISTRICT

Office of the Superintendent
KATHLEEN J. HARRIS, PH.D.
2006 Tower Drive * Monroe, LA 71201
Phone: (318) 325-0601 Fax: (318) 812-3604

February 8, 2012

Sandra Lemoine, Dean
College of Education and Human Development
700 University Avenue
Monroe, LA 71209

Dear Dr. Lemoine,

The Monroe City School District is pleased to offer support and enthusiasm for the University of Louisiana at Monroe professional development project, **"Outstanding in the field: Phase II."** The project seeks to meet the needs of 6th, 7th and 8th grade science teachers at high-needs schools by providing rich and rigorous professional development aligned to state and the common core standards at local research sites during a one-week summer institute. The project will also bring teachers to these sites during the school year to collect real data, and use technology to integrate database activities into the regular instruction of the middle school science classroom.

The Monroe City School District qualifies as a high-need district with a high level of poverty and a high need for qualified teachers. If funded, Monroe City School District welcomes the opportunity for interested middle school science teachers to participate in this professional development program. And, one representative from our school district in the leadership capacity will attend the in-service session on Wednesday, July 18, 2012.

Respectfully,

Kathleen Harris

Kathleen J. Harris, Ph.D.
Superintendent of Schools

Karla G. Tollett, Superintendent
7112 Hwy 165
P.O. Box 1019
Columbia, LA 71418
Ph.(318)649-2689 Fax (318)649-0636

February 10, 2012

Sandra Lemoine, Dean
College of Education and Human Development
700 University Avenue
Monroe, LA 71209

Dear Dr. Lemoine,

The Caldwell Parish School District is pleased to offer support and enthusiasm for the University of Louisiana at Monroe professional development project, **"Out standing in the field: Phase II."** The project seeks to meet the needs of 6th, 7th and 8th grade science teachers at high-needs schools by providing rich and rigorous professional development aligned to state and the common core standards at local research sites during a one-week summer institute. The project will also bring teachers to these sites during the school year to collect real data, and use technology to integrate databased activities into the regular instruction of the middle school science classroom.

If funded, Caldwell Parish School District agrees to use braided district funds to provide transportation for student leaders to visit the field.

Caldwell Parish School District qualifies as a high-need district with a high level of poverty and a high need for qualified teachers. If funded, Caldwell Parish welcomes the opportunity for interested middle school science teachers to participate in this professional development program. And, one representative from our school district in the leadership capacity will attend the in-service session on Wednesday, July 18, 2012.

Sincerely,

Karla Tollett

Karla Tollett,
Superintendent of Caldwell Parish Schools

MOREHOUSE PARISH SCHOOL BOARD

"Obtaining Excellence in Education Through Quality Teaching"

4099 Naff Avenue
Post Office Box 872
Bastrop, LA 71220
(318) 281-5784
Fax (318) 283-3456

Ron Volimar, President
District 3

Louis Melton, Vice President
District 2

Mrs. Karen Diel
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Jeff Churchwell
District 4

Mike Stephens
District 5

Ricky D. Smith
District 6

Robert Fenceroy
District 7

TOM THROWER
Superintendent

February 8, 2012

Sandra Lemoine, Dean
College of Education and Human Development
700 University Avenue
Monroe, LA 71209

Dear Dr. Lemoine,

The Morehouse Parish School District is pleased to offer support and enthusiasm for the University of Louisiana at Monroe professional development project, **"Out standing in the field: Phase II."** The project seeks to meet the needs of 6th, 7th and 8th grade science teachers at high-needs schools by providing rich and rigorous professional development aligned to state and the common core standards at local research sites during a one-week summer institute. The project will also bring teachers to these sites during the school year to collect real data, and use technology to integrate databased activities into the regular instruction of the middle school science classroom.

If funded, Morehouse Parish School District agrees to use additional LA GEAR UP funds to provide transportation for student leaders to visit the field.

Morehouse Parish School District qualifies as a high-need district with a high level of poverty and a high need for qualified teachers. If funded, Morehouse Parish School District welcomes the opportunity for interested middle school science teachers to participate in this professional development program. And, one representative from our school district in the leadership capacity will attend the in-service session on Wednesday, July 18, 2012.

Sincerely,

Tom Thrower

Tom Thrower, Superintendent
Morehouse Parish School Board

TT/vcb

OUACHITA PARISH SCHOOL SYSTEM

COMMITTED
to Academic Excellence
for ALL Students!

OUACHITA PARISH SCHOOL SYSTEM

100 Bry Street – P.O. Box 1642 – Monroe, Louisiana 71210-1642 – Phone: (318)432-5000 – Fax: (318)432-5320

Dr. Robert W. Webber
Superintendent
318-432-5204

February 8, 2012

Sandra Lemoine, Dean
College of Education and Human Development
700 University Avenue
Monroe, LA 71209

Dear Dr. Lemoine,

The Ouachita Parish School District is pleased to offer support and enthusiasm for the University of Louisiana at Monroe professional development project, **"Out standing in the field: Phase II."** The project seeks to meet the needs of 6th, 7th and 8th grade science teachers at high-needs schools by providing rich and rigorous professional development aligned to state and the common core standards at local research sites during a one-week summer institute. The project will also bring teachers to these sites during the school year to collect real data, and use technology to integrate databased activities into the regular instruction of the middle school science classroom.

If funded, Union Parish School District agrees to use additional LA GEAR UP funds to provide transportation for student leaders to visit the field.

The Ouachita Parish School District qualifies as a high-need district with a high level of poverty and a high need for qualified teachers. If funded, Union Parish School District welcomes the opportunity for interested middle school science teachers to participate in this professional development program. And, one representative from our school district in the leadership capacity will attend the in-service session on Wednesday, July 18, 2012.

Sincerely,

Robert Webber

Robert Webber, Ed.D.
Superintendent
Ouachita Parish School System

Union Parish School Board

Post Office Box 308
Farmerville, Louisiana 71241

George Cannon, Ed.D.
Interim Superintendent
www.unionparishschools.org
Phone (318) 368-9715
FAX (318) 368-3311

February 10, 2012

Sandra Lemoine, Dean
College of Education and Human Development
700 University Avenue
Monroe, LA 71209

Dear Dr. Lemoine:

The Union Parish School Board is pleased to offer support and enthusiasm for the University of Louisiana at Monroe professional development project, **"Out standing in the field: Phase II"**. The project seeks to meet the needs of 6th, 7th, and 8th grade science teachers in high-needs schools by providing rich and rigorous professional development aligned to state and the common core standards at local research sites during a one-week summer institute. The project will also bring teachers to these sites during the school year to collect real data, and use technology to integrate databased activities into the regular instruction of the middle school science classroom.

If funded, Union Parish School District agrees to use additional LA GEAR UP funds to provide transportation for student leaders to visit the field.

Union Parish Schools district qualifies as a high-need district with a high level of poverty and a high need for qualified teachers. If funded, Union Parish School District welcomes the opportunity for interested middle school science teachers to participate in this professional development program. And, one representative from our school district in the leadership capacity will attend the in-service session on Wednesday, July 18, 2012.

Sincerely,

Dr. George Cannon, Superintendent
Union Parish Schools

OFFICE OF
RICHLAND PARISH SCHOOL BOARD
SHELDON JONES
P. O. BOX 599
RAYVILLE, LOUISIANA 71269

February 8, 2012

Sandra Lemoine, Dean
College of Education and Human Development
700 University Avenue
Monroe, LA 71209

Dear Dr. Lemoine,

The Richland Parish School Board is pleased to offer support and enthusiasm for the University of Louisiana at Monroe professional development project, "Outstanding in the field: Phase II." The project seeks to meet the needs of 6th, 7th and 8th grade science teachers at high-needs schools by providing rich and rigorous professional development aligned to state and the common core standards at local research sites during a one-week summer institute. The project will also bring teachers to these sites during the school year to collect real data, and use technology to integrate databased activities into the regular instruction of the middle school science classroom.

The Richland Parish School Board qualifies as a high-need district with a high level of poverty and a high need for qualified teachers. If funded, the Richland Parish School Board welcomes the opportunity for interested middle school science teachers to participate in this professional development program. And, one representative from our school district in the leadership capacity will attend the in-service session on Wednesday, July 18, 2012.

Sincerely,

Sheldon Jones

Sheldon Jones, Superintendent
Richland Parish

United States Department of the Interior
FISH AND WILDLIFE SERVICE
Black Bayou Lake National Wildlife Refuge
11372 Hwy 143
Farmerville, LA 71241

February 14, 2012

Sandra Lemoine, Dean
College of Education and Human Development
700 University Avenue
Monroe, LA 71209

I am pleased to offer support and use of facilities at the BBLNWR for the professional development project, "Outstanding in the field: Phase II", carried out at University of Louisiana at Monroe. We are glad to continue to offer our support to the current project, Outstanding in the field: Phase II.

We understand that our support of Phase I of the project was an important element in its successful completion and we look forward to being a part of Phase II. Dr. Bhattachargee and his work are definite assets to Black Bayou Lake National Wildlife Refuge and the "Outstanding in the Field" project fits very nicely with the mission of the U. S. Fish and Wildlife Service.

Gay Brantley, Refuge Ranger
North Louisiana Refuges Complex

WEST MONROE
Parks & Recreation

February 14, 2012

Sandra Lemoine, Dean
College of Education and Human Development
700 University Avenue
Monroe, LA 71209

Dear Dean Lemoine,

On behalf of the Department of Parks& Recreation, City of West Monroe I am pleased to offer support and use of facilities at the Restoration Park for the professional development project, “Outstanding in the field: Phase II”, carried out at University of Louisiana at Monroe, jointly by the Departments of Education, Biology and Atmospheric Sciences. It has been a continuing effort on our part to facilitate such projects that are geared towards creating environmental awareness among citizens, right from middle school through the university levels. We were glad to offer our support to the prequel of the current project, Outstanding in the field: Phase I.

I have personally talked to Dr. Joydeep Bhattacharjee, Department of Biology and have been highly impressed by the significance and scope of the proposed project. I extend my best wishes to the team in receiving the grant and continuing to bring middle school science teachers and students to this site and facilitate learning science in the field.

Sincerely,

Douglas A. (Doug) Seegers
Director

820 Downing Kiroli Road, West Monroe, Louisiana 71291

Office 318.396.4016– Fax 318.396.4010 – westmonroeparksandrecreation@comcast.net