University of Findlay

Faculty Development Grants for Enhanced Teaching and Scholarship (ETS)
2019-2020 Application Guidelines

Application deadline: Monday, June 3, 2019

Email completed applications as one PDF to facultydevelopment@findlay.edu

Faculty Development Grants for Enhanced Teaching and Scholarship (ETS) are designed to encourage faculty to engage in professional activities that will enhance their growth as teachers and scholars, thereby supporting exceptional student learning. ETS Grants are highly competitive grants that award funds of up to $10,000 per project proposal (whether for individual or collaborative projects). Applications from individual faculty and faculty groups are invited. The Faculty Development Committee will give additional consideration to proposals that demonstrate cross-departmental collaboration. This year, up to $35,000 will be awarded.

The first priority in awarding ETS funds is to support proposals that most successfully demonstrate clear project viability, significance, and sustained impact beyond the grant period.

Not all applications will be awarded funding and possibly not all funds will be disbursed. The committee has the flexibility to determine which applications best meet the guidelines set forth in the Application Guidelines. Unused funds will be transferred to the general Faculty Development fund and made available to faculty applying for traditional professional development activities.

Applications are due by Monday, June 3, 2019. Awards will be announced via email by June 28. Funds will be available for disbursement August 1, 2019. All funds must be spent during the fiscal year in which they are awarded. (The fiscal year runs from August 1 through July 31 of the following year.)

ETS Grants will be awarded according to the following categories:

Teaching Grants are designed to enable exceptional student learning by encouraging instructors to expand their pedagogical and/or andragogical skills. Teaching Grants support proposals to improve pedagogical or andragogical skills through learning about, implementing and/or assessing new teaching strategies. This may include but is not limited to course development or redesign or application of innovative teaching practices. Interdisciplinary or collaborative proposals are encouraged.

Research/Creative Production Grants are designed to promote faculty scholarship and creative production that enable exceptional student learning. These grants support projects that exceed typical faculty development activities such as conference participation or attendance or publication fees. These projects may include but are not limited to research

expenses; seed money necessary to apply for external grants; costs to bring collaborators to campus; equipment necessary for scholarly or creative production.

Emerging Faculty Grants are designed as career development grants for faculty at the assistant rank or below within their first five years at UF. These grants support scholarly/creative production or enhancement of teaching skills. See specific criteria on proposal application form.

Eligibility

- All full-time faculty on a continuing appointment are eligible to apply for a Faculty Development ETS Grant.
- Individual faculty may submit one ETS grant application a year. However, applications from individual faculty members also applying as part of a group will be considered. Proposals (whether individual or collaborative) are eligible for grants of up to $10,000.
- Applications from faculty who will not be under employment contract (due to resignation or termination) to the University of Findlay during the whole of the grant period will not be considered. Should a faculty member's affiliation with UF end during the funding period, funds awarded must be repaid to the university.
- Applications from faculty who have not filed complete reports and expense forms on the use of previous grants awarded by the Faculty Development Committee will not be considered.

Application Process

For consideration of a grant please **complete the attached application and email as one PDF to** facultydevelopment@findlay.edu. Incomplete proposals or proposals that do not adhere to the guidelines will not be considered.

Proposals should be written for the non-specialist.

Proposals that involve human subjects or the use of human tissues are subject to the requirements of UF's Institutional Review Board (IRB). Proposals that involve the use of vertebrate animals are subject to the requirements of UF's Institutional Animal Care and Use Committee (IACUC). *IRB and IACUC approvals are not a prerequisite to submitting an ETS Faculty Development Grant application but are required prior to the commencement of the research.*

Proposals must provide an impact statement that documents the project's effects on university infrastructure (facilities, ITS, etc.) and existing programs, including a review of cost and resource implications. Applications must include a completed Proposal Review Memorandum from each of the affected departments/areas/centers on campus. See specific instructions on proposal application form.

ETS Grant Review Process

ETS grants are reviewed by members of the Faculty Development Committee through a blind peer review process that evaluates the merit of the proposed activity according to the review criteria. Reviewers consider the clarity of the proposal (including the budget statement), paying particular attention to the project's potential to enhance the applicant's teaching and/or scholarship, and its adherence to the application guidelines and rubric.

ETS Grant Funds may be used for but are not limited to

- Faculty research projects, particularly those that may lead to external funding opportunities. Direct research activities completed during sabbatical may be eligible for funding—all other restrictions apply.
- Projects intended to advance teaching through scholarly inquiry into student learning.
- Development and evaluation of instructional innovations that will increase the faculty member's ability to promote student learning (e.g., learning new and improved methods of instruction, curricular development, learning the use of new instructional equipment, software and/or materials).
- Costs associated with instructional improvement or for faculty professional development, impacting student learning directly or indirectly.
- Instructional materials including specialized software (but not able to be purchased by ITS); must include assessment of the impact of the materials on student learning.
- Fees for access to facilities and services for the development of instructional and/or creative production/research materials.
- Travel for necessary research at most economical rates (the Faculty Development Committee has the right to deny reimbursement for any expenses deemed to be excessive [travel upgrades, luxury car rentals, etc.]).
- Essential research materials (books, journals, digital resources) not easily available through campus sources.
- Laboratory research materials (supplies, instruments, consumables, analytical services).
- Essential supplies and materials for artistic work (visual and performing arts).
- Performance costs (fees for professional actors or musicians; instruments; staging; space rental).

ETS Grant Funds may not be used for

- Travel to present research at or attend professional meetings. (Funding will be considered for attendance at special workshops/seminars when the applicant provides sufficient information to relate the value of the workshop/seminar to his or her research and/or teaching. In the event the workshop/seminar is being held in conjunction with a regular professional meeting, funding will be considered only for fees associated with the workshop/seminar portion of the meeting but may not be used for travel, housing, or meeting registration. Traditional Faculty Development funding may be applied for.)
- Projects that contribute directly to the earning of degrees or other professional terminal credentials required for employment.

- Costs associated with professional licensing and/or memberships in professional organizations.
- Reimbursement for expenditures made prior to the ETS Grant award.
- Payment of faculty salaries to provide leave or release time.
- Projects where alternative activities and/or resources are available on campus.

Reporting requirements

Faculty who receive an ETS Grant must file a report detailing project activity and outcomes by September 9, 2020. The report should include documentation of what the project accomplished, an explanation of the project's benefit to all impacted, and a final budget. Grant recipients are also expected to present their project progress and/or results to the UF community at the Faculty Awards Gala the fall following their funding year (Fall 2020). Presentations will be coordinated with the chair of the Faculty Development Committee and the Center for Teaching Excellence. **Failure to provide a project report and/or present to campus will preclude subsequent Faculty Development Committee funding.**

Deadline

Applications are due by June 3, 2019. Awards will be announced via email by June 28, 2019.

Important dates

Application Deadline	**Awards Announced** (via email)	**Funds Available**	**Funds Must be Spent**	**Final Report Due**	**Poster Presentation**
June 3, 2019	June 28, 2019 (Last Friday in June)	August 1, 2019 (Start of fiscal year)	by July 31, 2020 (End of fiscal year)	September 9, 2020	Faculty Awards Gala Fall 2020

University of Findlay®

Faculty Development ETS Grants 2019-2020 Application Form

Application deadline: Monday, June 3, 2019

Email completed applications as one PDF to facultydevelopment@findlay.edu

Following is the ETS Grant application form. To be considered, the cover page must be completed and each of the items on the application form must be addressed. Be sure to write your proposal in clear language that can be understood by reviewers outside of your discipline. Application includes minimum requirements; applicants are encouraged to add supporting materials or any relevant documents that would strengthen their proposal.

ETS Grant Application Cover Page

Name(s) and College(s) of all applicants:

Title of Project:

For which grant you are applying?

Teaching Grant ☐ Research/Creative Production Grant ☐ Emerging Faculty Grant ☐

Amount of Funds Requested:

Project Title:

I. Statement of Problem or Need

What is the problem or need to be addressed? What is the basic idea, problem, or rationale for the research question that is the focus of the proposal? Support your statement with citations from research and reliable sources.

II. Significance (to your field and to your work at UF)

What is the significance of this problem or need to your field? What is the significance of this project to your teaching philosophy and/or creative production/research agenda as a faculty member at the University of Findlay?

III. Connection to the Big 8 and Sustained Significance

How specifically does the project align with the University's strategic goals (Big 8)? What sustained significance will the project have for the University beyond the initial funding period?

- Equip students for meaningful lives and productive careers
- Improve academic programs continuously through rigorous assessment
- Grow targeted enrollment
- Enable exceptional student learning
- Develop the whole person through individual attention
- Embrace professional, cultural and intellectual diversity
- Provide experiential learning in every program
- Build best-in-class strategic resources

IV. Activities and Methods

What activities will you implement to achieve your outcomes? What is the research methodology you are going to use? Explain why these are the most effective methodologies or best practices, using outside evidence to support as appropriate. What, if any, preliminary work has been done for the project by applicant(s) and/or by other individuals?

V. Outcomes

What are the specific, measurable, and observable outcomes you hope to achieve? What scholarly product(s) do you anticipate would come from this project? What is the likelihood of a substantial result from the grant (usable product, public attention that can impact public policy, external funding, etc.)?

VI. Timeline

Provide a realistic and comprehensive timeline of major project activities.

VII. Evaluation

How will you measure whether or not you have achieved the outcomes described above?

VIII. Impact Statement

How will this project affect existing University infrastructure? Impacts to address include, but are not limited to, the following. If there is no impact, explain.

a. What physical spaces are needed for this project? Will facilities need to make changes to existing campus spaces?
b. Will equipment purchased need to be maintained by someone other than the grant recipient(s)?
c. What kinds of ITS support or resources would be required?
d. Would licenses or subscriptions need to be sustained beyond the grant period?
e. Will Shafer Library need to purchase additional resources?
f. How might the proposed project affect support staff?
g. Would resources or support be required from programs or departments not writing the grant proposal?
h. What are the implications of these requirements?

A Completed Proposal Review Memorandum must be submitted from each department/area/center affected by the proposal. Note: Approval from affected areas does not guarantee funding. However, funding cannot be awarded without approval.

IX. Budget Justification

Your budget should support with numbers the methods and activities you describe above. The budget should be reasonable for both the effort and the anticipated results. Explain how and why specific expenditures are necessary for the proposed activity. Explain how you are arriving at your costs. **A specific breakdown of expenses associated with the project must be included with supporting documentation of costs.** Appropriate documentation may include: screen shots with vendor and price information, vendor quotes, PDF of catalog pages, screen shots of travel cost estimates (e.g. flight cost, car rental, hotel rates, food per diem, Google map to show mileage), screen shots documenting costs associated with research (e.g. library or transcription fees) or creative production (e.g. stage rental or production costs).

Provide a detailed explanation of other sources of funding. If requesting seed money for an external grant, identify the source of the external funding. If your total estimated project expenditures exceed $10,000, document additional sources of funding.

X. For Emerging Faculty Grant Applicants only

How specifically does the proposed project contribute to your long-term professional trajectory? How does it advance your professional growth and/or impact your professional identity?

2019-2020 ETS Grant Proposal Review MEMORANDUM

FROM:

SUBJECT: Review of ETS grant proposal by affected Department/Area/Center

PROPOSAL TITLE:

Directions: All proposals must include a completed Proposal Review Memorandum. Select one of the following.

◯ N/A Briefly explain.

OR

The affected Department/Area/Center

has reviewed proposal

and (at least one of the following must be checked)

◯ Department/center/area has no concerns.

◯ Issues of concern have been resolved satisfactorily. List below all areas of concern addressed and resolution.

◯ Issues of concern have been raised but not resolved. Briefly describe below concern(s).

All relevant signatures and dates required:

Proposal Sponsors Date

Chair/Director of Affected Department/Area/Center Date

Adapted from UF Curriculum Review Memorandum

University of Findlay

2019-2020 ETS Grant Evaluation Rubric

Criterion	Description	Excellent (3 points)	Good (2 points)	Fair (1 points)	Poor (0 points)
Statement of Problem or Need	**Applicant explained the problem and/or need being addressed.**	Specific and comprehensive. Complete, detailed, and clearly articulated information as to how the criteria are met. Proposal presents well-conceived and thoroughly developed ideas.	General, but sufficient detail. Adequate information as to how the criteria are met, but some areas are not fully explained and/or questions remain. Some minor inconsistencies and weaknesses.	Vague and non-specific. Criteria minimally met, but limited information is provided about approach and strategies. Lacks focus and detail.	Does not meet the criteria, fails to provide information, provides inaccurate information, or provides information that requires substantial clarification as to how the criteria are met; or simply restates the criteria.
	Applicant explained the basic idea or rational for the project's central research question, providing citations from research and reliable sources.	Specific and comprehensive. Complete, detailed, and clearly articulated information as to how the criteria are met. Proposal presents well-conceived and thoroughly developed ideas.	General, but sufficient detail. Adequate information as to how the criteria are met, but some areas are not fully explained and/or questions remain. Some minor inconsistencies and weaknesses.	Vague and non-specific. Criteria minimally met, but limited information is provided about approach and strategies. Lacks focus and detail.	Does not meet the criteria, fails to provide information, provides inaccurate information, or provides information that requires substantial clarification as to how the criteria are met; or simply restates the criteria.
Significance	**Applicant explained the project's**	Specific and comprehensive. Complete,	General, but sufficient detail. Adequate	Vague and non-specific. Criteria	Does not meet the criteria, fails to provide

	significance to applicant's field.	detailed, and clearly articulated information as to how the criteria are met. Proposal presents well-conceived and thoroughly developed ideas.	information as to how the criteria are met, but some areas are not fully explained and/or questions remain. Some minor inconsistencies and weaknesses.	minimally met, but limited information is provided about approach and strategies. Lacks focus and detail.	information, provides inaccurate information, or provides information that requires substantial clarification as to how the criteria are met; or simply restates the criteria.
	Applicant explained the project's significance to applicant's teaching philosophy and/or creative production/research agenda as a faculty member at the University of Findlay.	Specific and comprehensive. Complete, detailed, and clearly articulated information as to how the criteria are met. Proposal presents well-conceived and thoroughly developed ideas.	General, but sufficient detail. Adequate information as to how the criteria are met, but some areas are not fully explained and/or questions remain. Some minor inconsistencies and weaknesses.	Vague and non-specific. Criteria minimally met, but limited information is provided about approach and strategies. Lacks focus and detail.	Does not meet the criteria, fails to provide information, provides inaccurate information, or provides information that requires substantial clarification as to how the criteria are met; or simply restates the criteria.
Connection to the Big 8 and Sustained Significance	**Applicant explained the project's alignment to the University's strategic goals (Big 8).**	Specific and comprehensive. Complete, detailed, and clearly articulated information as to how the criteria are met. Proposal presents well-conceived and thoroughly developed ideas.	General, but sufficient detail. Adequate information as to how the criteria are met, but some areas are not fully explained and/or questions remain. Some minor inconsistencies and	Vague and non-specific. Criteria minimally met, but limited information is provided about approach and strategies. Lacks focus and detail.	Does not meet the criteria, fails to provide information, provides inaccurate information, or provides information that requires substantial clarification as to how the criteria are met; or simply restates the criteria.

			weaknesses.		
	Applicant explained the project's sustained impact to the UF community beyond the initial funding period.	Specific and comprehensive. Complete, detailed, and clearly articulated information as to how the criteria are met. Proposal presents well-conceived and thoroughly developed ideas.	General, but sufficient detail. Adequate information as to how the criteria are met, but some areas are not fully explained and/or questions remain. Some minor inconsistencies and weaknesses.	Vague and non-specific. Criteria minimally met, but limited information is provided about approach and strategies. Lacks focus and detail.	Does not meet the criteria, fails to provide information, provides inaccurate information, or provides information that requires substantial clarification as to how the criteria are met; or simply restates the criteria.
Activities and Methods	**Applicant described research methodology, indicating appropriateness of methodology to achieving desired outcomes.**	Specific and comprehensive. Complete, detailed, and clearly articulated information as to how the criteria are met. Proposal presents well-conceived and thoroughly developed ideas.	General, but sufficient detail. Adequate information as to how the criteria are met, but some areas are not fully explained and/or questions remain. Some minor inconsistencies and weaknesses.	Vague and non-specific. Criteria minimally met, but limited information is provided about approach and strategies. Lacks focus and detail.	Does not meet the criteria, fails to provide information, provides inaccurate information, or provides information that requires substantial clarification as to how the criteria are met; or simply restates the criteria.
	Applicant described activities to be implemented, indicating appropriateness of those activities to achieving desired	Specific and comprehensive. Complete, detailed, and clearly articulated information as to how the criteria are met. Proposal presents well-conceived and thoroughly	General, but sufficient detail. Adequate information as to how the criteria are met, but some areas are not fully explained and/or questions	Vague and non-specific. Criteria minimally met, but limited information is provided about approach and	Does not meet the criteria, fails to provide information, provides inaccurate information, or provides information that requires substantial clarification as to how the

	outcomes and describing any relevant preliminary work.	developed ideas.	remain. Some minor inconsistencies and weaknesses.	strategies. Lacks focus and detail.	criteria are met; or simply restates the criteria.
Outcomes	**Applicant provided measurable and observable outcomes to be achieved.**	Specific and comprehensive. Complete, detailed, and clearly articulated information as to how the criteria are met. Proposal presents well-conceived and thoroughly developed ideas.	General, but sufficient detail. Adequate information as to how the criteria are met, but some areas are not fully explained and/or questions remain. Some minor inconsistencies and weaknesses.	Vague and non-specific. Criteria minimally met, but limited information is provided about approach and strategies. Lacks focus and detail.	Does not meet the criteria, fails to provide information, provides inaccurate information, or provides information that requires substantial clarification as to how the criteria are met; or simply restates the criteria.
	Applicant identified scholarly products that would result from project, including likely substantial results (peer-reviewed publication, creative work, usable product, public attention that can impact public policy, external funding,	Specific and comprehensive. Complete, detailed, and clearly articulated information as to how the criteria are met. Proposal presents well-conceived and thoroughly developed ideas.	General, but sufficient detail. Adequate information as to how the criteria are met, but some areas are not fully explained and/or questions remain. Some minor inconsistencies and weaknesses.	Vague and non-specific. Criteria minimally met, but limited information is provided about approach and strategies. Lacks focus and detail.	Does not meet the criteria, fails to provide information, provides inaccurate information, or provides information that requires substantial clarification as to how the criteria are met; or simply restates the criteria.

	etc.)				
Timeline	**Applicant provided a realistic and comprehensive timeline of major project activities.**	Specific and comprehensive. Complete, detailed, and clearly articulated information as to how the criteria are met. Proposal presents well-conceived and thoroughly developed ideas.	General, but sufficient detail. Adequate information as to how the criteria are met, but some areas are not fully explained and/or questions remain. Some minor inconsistencies and weaknesses.	Vague and non-specific. Criteria minimally met, but limited information is provided about approach and strategies. Lacks focus and detail.	Does not meet the criteria, fails to provide information, provides inaccurate information, or provides information that requires substantial clarification as to how the criteria are met; or simply restates the criteria.
Evaluation	**Applicant explained how achievement of outcomes will be measured.**	Specific and comprehensive. Complete, detailed, and clearly articulated information as to how the criteria are met. Proposal presents well-conceived and thoroughly developed ideas.	General, but sufficient detail. Adequate information as to how the criteria are met, but some areas are not fully explained and/or questions remain. Some minor inconsistencies and weaknesses.	Vague and non-specific. Criteria minimally met, but limited information is provided about approach and strategies. Lacks focus and detail.	Does not meet the criteria, fails to provide information, provides inaccurate information, or provides information that requires substantial clarification as to how the criteria are met; or simply restates the criteria.
Impact Statement	**Applicant explained how the project will affect existing University infrastructure, including but not limited to physical**	Specific and comprehensive. Complete, detailed, and clearly articulated information as to how the criteria are met. Proposal presents well-conceived and thoroughly	General, but sufficient detail. Adequate information as to how the criteria are met, but some areas are not fully explained and/or questions	Vague and non-specific. Criteria minimally met, but limited information is provided about approach and	Does not meet the criteria, fails to provide information, provides inaccurate information, or provides information that requires substantial clarification as to how the

	spaces and IT resources and/or how the project would affect other UF programs or departments and implications of impact. Appropriate Proposal Review Memorandum included.	developed ideas. Appropriate Proposal Review Memorandum included.	remain. Some minor inconsistencies and weaknesses. Appropriate Proposal Review Memorandum included.	strategies. Lacks focus and detail. Appropriate Proposal Review Memorandum not included or incomplete.	criteria are met; or simply restates the criteria. Appropriate Proposal Review Memorandum not included or incomplete.
Budget Justification	**Applicant provided breakdown of project expenses with supporting documentation.**	Specific and comprehensive. Complete, detailed, and clearly articulated information as to how the criteria are met. Proposal presents well-conceived and thoroughly developed ideas.	General, but sufficient detail. Adequate information as to how the criteria are met, but some areas are not fully explained and/or questions remain. Some minor inconsistencies and weaknesses.	Vague and non-specific. Criteria minimally met, but limited information is provided about approach and strategies. Lacks focus and detail.	Does not meet the criteria, fails to provide information, provides inaccurate information, or provides information that requires substantial clarification as to how the criteria are met; or simply restates the criteria.
	Applicant explained why expenditures are necessary for proposed activity.	Specific and comprehensive. Complete, detailed, and clearly articulated information as to how the criteria are met. Proposal presents well-conceived and thoroughly	General, but sufficient detail. Adequate information as to how the criteria are met, but some areas are not fully explained and/or questions	Vague and non-specific. Criteria minimally met, but limited information is provided about approach and	Does not meet the criteria, fails to provide information, provides inaccurate information, or provides information that requires substantial clarification as to how the

		developed ideas.	remain. Some minor inconsistencies and weaknesses.	strategies. Lacks focus and detail.	criteria are met; or simply restates the criteria.
	Applicant identified and explained additional sources of funding (internal and external).	Specific and comprehensive. Complete, detailed, and clearly articulated information as to how the criteria are met. Proposal presents well-conceived and thoroughly developed ideas.	General, but sufficient detail. Adequate information as to how the criteria are met, but some areas are not fully explained and/or questions remain. Some minor inconsistencies and weaknesses.	Vague and non-specific. Criteria minimally met, but limited information is provided about approach and strategies. Lacks focus and detail.	Does not meet the criteria, fails to provide information, provides inaccurate information, or provides information that requires substantial clarification as to how the criteria are met; or simply restates the criteria.

Total points:

Comments:

University of Findlay

Faculty Development ETS Grants 2017-18 Application Form

Application deadline: Friday, May 19, 2017

Email completed applications as one PDF to facultydevelopment@findlay.edu

Following is the ETS Grant submission form. To be considered, the cover page must be completed and each of the items on the submission form must be addressed. Be sure to write your proposal in clear language that can be understood by reviewers outside of your discipline. Application includes minimum requirements; applicants are encouraged to add supporting materials or any relevant documents that would strengthen their proposal.

ETS Grant Application Cover Page

Name(s) and College(s) of all applicants:

College of Sciences

Title of Project:

Investment and implementation of the SCR Heatime® Pro System at the Beckett Animal Science Center

For which grant you are applying?

Teaching Grant ☐ Research/Creative Production Grant ☒ Emerging Faculty Grant ☐

Amount of Funds Requested:

$10,000

For Faculty Development Committee to complete.

Date of Submission:

Date of Confirmation of Receipt:

Total Funds Awarded:

Date of Notification of Review Decision:

Date of Receipts Received:

Funds Disbursed:

Date Final Report Submitted:

Project Title: Investment and implementation of the SCR Heatime® Pro System at the Beckett Animal Science Center

I. Statement of Problem or Need

What is the problem or need to be addressed? What is the basic idea, problem, or rationale for the research question that is the focus of the proposal? Support your statement with citations from research and reliable sources.

In the field of Animal Science, particularly here at the University of Findlay, we must strike a balance of resources between serving the undergraduate curriculum and hands-on student activities, management of the animal populations in a fiscally responsible way, as well as providing scholarly opportunity for the faculty. This balance of resources is a challenge and creatively bringing these stakeholders together is the goal with this proposal.

My primary motivation behind submittal of this proposal is designed to allow me to implement a sustainable research program with the ruminant animals (cattle, sheep, and goats) at the Beckett Animal Science Center. I will however highlight ways the SCR Heatime® Pro System will add value to our curriculum and overall animal management goals as well.

The SCR Heatime® Pro System is an emerging animal monitoring technology that is commercially adapted for use in dairy cattle. This system incorporates a neck collar that would be fitted to the animal and collects data on rumination (normal process of periodic regurgitation of digesta for further breakdown) and locomotion. It then uses a PC-based software interface that would provide information and alerts on reproductive parameters (such as when to breed or suspected pregnancy losses), prediction of birthing, prediction of animals becoming ill, those enduring stress, and records long term trends of individual animal baseline physiology as well as trends across the herd as whole (http://www.scrdairy.com/herd-intelligence/scr-heatime-hr-system.html). In addition, according to the manufacturer, "SCR Heatime® Pro eliminates the guesswork and inconsistency of evaluating the reproductive, health, nutrition and wellbeing status of each and every cow, allowing early and proactive action."

As aforementioned, this technology has been accepted for use in dairy cattle (Schirmann et al., 2013; Bar and Solomon, 2010; Bar, 2010; Burfeind et al., 2011; Byskov et al., 2014), but its implementation in beef herds is limited and requires additional research (Goldhawk et al., 2013; Ambriz-Vilchis et al., 2015) and use small ruminants such as sheep and goats has not been validated to this point. It is here where I find a unique opportunity to pursue scholarly endeavors in my field of research which focuses on both nutritional and reproductive management in ruminants as well as contribute to a field of research not fully elucidated.

In addition to the array of information this technology would grant us access to, through the monitoring our animals, I would also like to highlight that this system would allow us to produce large quantities of data using a very non-invasive approach. This is a particular

benefit due to many of the animals being used for class or for the show team. Use of these collars would allow data collection to persist without interference in other roles the animals may be used for, which has always been a challenge.

While I grant that use of this data in addition to collection of biological specimens (such a blood samples) or other more invasive data collection methods could fortify conclusions drawn from a particular study and may be done in specific contexts, the data from the collars can stand alone. Implementation of the collars can in some instances replace the need for invasive procedures that would typically be used to conduct similar research.

II. Significance (to your field and to your work at UF)

How does this problem impact your field and why is it important? How does this project fit into your teaching philosophy and/or creative production/research agenda as a faculty member at the University of Findlay?

At the foundation, my teaching and research philosophies center around the intersection of conceptual framework and application to the animal science industry. That is, what are the implications of the science to the real-world everyday end user. I believe that investment into the Heatime® Pro System would allow me to further my teaching and scholarly activity while closely aligning with the principles of the above philosophies.

As I've already noted above, the research I would be able to conduct will fill a current void in application of this technology by validating the system for use in differing beef cattle operations and in small ruminants. This would have an overarching effect not only to the science and research community but also producers who would potentially benefit from the ability to adapt this technology. In addition, I would have the ability to add to a body of research focusing on the improvement of management and care of ruminant animals. The University of Findlay has a herd of Low-line Angus cattle, a breed which are anatomically and physiologically distinct from other breeds and are found in small numbers world-wide. To that end, not much research has been conducted to characterize these differences and how these differences may impact management decisions and if they have potential to create a more prominent spot in the beef industry. I see an opportunity to do this.

Additionally, implementing this system specifically for beef and small ruminants provides a unique opportunity to partner with SCR to improve their product. The current SCR software does not interface with 3rd party vendors that supply management and record keeping software for beef cattle and small ruminant producers, unlike the dairy industry. At this time, SCR Heatime® Pro System has the ability to integrate with at least six dairy herd management systems. We would be in a position to improve workflow options for progressive producers interested in a holistic herd management software package, which has direct implications for the industry.

III. Connection to the Big 8

How specifically does the project align with the University's strategic goals (Big 8)?

- Equip students for meaningful lives and productive careers
- Improve academic programs continuously through rigorous assessment

- Grow targeted enrollment
- Enable exceptional student learning
- Develop the whole person through individual attention
- Embrace professional, cultural and intellectual diversity
- Provide experiential learning in every program
- Build best-in-class strategic resources

Equip students for meaningful lives and productive careers

Students whether it be those engaging in undergraduate research or taking any one of the Animal Science courses will have the opportunity to see first-hand how this technology is currently being utilized in the industry. It is crucial for students entering the workforce to have exposure to the technology being adapted in the industry currently and more importantly know how to apply it to management of animals. Having the SCR Heatime® Pro System at the Animal Science barn will uniquely position students to have a working knowledge of current management systems such as this making them immediately prepared for graduate school or work the industry.

Enable exceptional student learning

This technology provides a unique opportunity specifically to our animal science courses because of its non-invasive nature. By utilizing it as a tool in our courses we can in real-time demonstrate the impact of biological events or management strategies on individual animals. Traditional strategies to do this may require more time or resources than would be practical within a 15-week semester. Again, students will also be able to utilize something that is current to the industry they intend to pursue careers in as well.

Provide experiential learning in every program

Implementing the use of this technology will provide an additional venue for students conducting undergraduate research and enrolled in our hands-on classes to continue to participate in our program that has a long standing well-regarded reputation for experiential learning at not only the University of Findlay but nationwide as well.

Build best-in-class strategic resources

This system is technology on the forefront of the industry. By investing in this technology the Animal Science program will be able to set an example and be viewed as a progressive program. This system is set up for longevity and the reputation of the manufacturer is such that the University of Findlay will have access to the most current updates and trends associated with this technology.

IV. Activities and Methods

What activities will you implement to achieve your outcomes? What is the research methodology you are going to use? What, if any, preliminary work has been done for the project?

I have compiled a list of initial projects I would like to complete. I would like to reiterate that this system is meant to provide a sustainable source point to generate continued scholarly activity. I foresee new projects developing from data garnered from this initial set of projects, as well as providing a synergistic opportunity between myself and students interested in

conducting undergraduate research to ask and answer questions in the future based on their areas of interest.

Initial Projects

Note: in all cases a period of acclimation to collars and individual animal baselines will be assessed.

- **Effect of acclimation and travel in cattle exhibited to show on rumination parameters.**
  - Utilize 2 groups:
    - Those cattle identified for show, will be handled and prepared for show accordingly (halter breaking, washing, walking, etc.) (acclimated)
    - Managed similar to group 1, but not handled and prepared for show (un-acclimated)
    - Typically, cattle selected for show have physical attributes appropriate to the breed, but often temperament plays a role as well. A temperament score will be assessed to control for any bias.
  - Place collars on both groups and record rumination and locomotion patterns pre-show, during a transit event, and after arrival. The un-acclimated group would have a similar transit event, but not taken to the show.
- **Effect of differing feed types on rumination parameters.**
  - This project can actually be any number of projects looking at the effect of feed types on rumination.
  - A comparison of 2 groups that will be randomly assigned to one of 2 diets.
  - Rumination and locomotion data will be recorded.
  - Length of trial will be dependent on feed type and age of cattle.
  - May be coupled with additional data collection such as feed digestibility and blood metabolite collection.
- **Characterization of attainment of puberty and estrus expression in Low-line Angus cattle**.
  - Weaned heifer (female) calves will be fitted with collars and data will be collected until first breeding, approximately 4-6 months.
  - Due to herd size, this may need to be replicated to provide enough experimental units.
  - This will allow us to characterize when puberty is attained and how they express estrus (sexual receptivity).
  - May be coupled with visual observations and collection of blood hormone concentrations.
- **Effect of implementation of collars on embryo transfer pregnancy rates.**
  - This trial has potential to be an extension of above trial. Additionally, mature cows may be added.
  - Collars will be fitted to cattle during the breeding season to assist with detection of estrus, and therefore appropriate embryo transfer times.
  - Pregnancy will be diagnosed at day 25 and 55 of gestation.

    - Comparison of successful pregnancy rates from embryo transfer will be compared to pregnancy data in previous years of utilizing embryo transfer.
- **Effect of implementation of collars on calving.**
    - Collars will be fitted to heifers and cows 30 days prior to expected calving date until 30 days post-partum.
    - Observation of data to indicate a calving event, calving difficulty, or subsequent post-partum health issues will be assessed.
    - Comparison of calving data from previous years from each calving season (spring and fall) will be utilized.
- **Effect of implementation of collars on morbidity and mortality rates in weaned calves.**
    - Weaned calves will be split into 2 groups, half fitted with collars half without.
        - Collars will be fitted prior to weaning.
    - Visual observations will be conducted daily to assess heath and feed consumption. Collar data will be analyzed for alerts to sub-clinical symptoms of illness (changes in locomotion and eating patterns). Animals observed with illness symptoms (fever, lethargy, runny nose, etc.) will be recorded for both groups as well as timing of any treatments.
- **Effect of routine vaccinations and castration on rumination parameters in cattle.**
    - Fit collars to cattle at least 2 weeks prior to administration of vaccines and castration.
    - Observe potential changes to feed intake and rumination parameters.
- **Attainment of functional rumination in calves and interaction with diet.**
    - Fit collars to young cattle approximately 4 weeks of age and randomly assign to two dietary treatments of differing fiber content.
    - Observe initiation of rumination.
- **Validation of the collars for use in sheep and goats.**
    - Fit (or retrofit if necessary based on size) collars to sheep and goats at least 2 weeks prior to beginning of trial.
    - Conduct a series of 2-hour visual (live or video) observations of rumination activity.
    - Create a correlation between data collected via collar and visual observations to determine validity.
- **Validation of the collars for use in grazing beef cattle.**
    - Fit collars to cattle at least 2 weeks prior to beginning of trial.
    - Conduct a series of 2-hour visual (live or video) observations of rumination activity.
    - Create a correlation between data collected via collar and visual observations to determine validity.

V. Timeline

Provide a realistic timeline of major project activities.

The above projects will be conducted over the next 2-4 years. Due to the limitations on collar numbers, availability of animals, and seasonal changes only 2-4 project will be able to be carried out per year. In addition, in order to procure enough experimental units needed for a robust data set that would be required for a manuscript, some of them will be replicated across time. Additionally, I feel like 2-4 project per year is realistic in terms of managing this number undergraduate student researchers at this early point in my career. This will also help balance additional budget resources associated with additional data collection. Upon receipt of funding, purchase of the system will be made and installation will occur as soon as the manufacturer can comply. I anticipate this to occur by mid-fall 2017.

VI. Outcomes

What are the specific, measurable and observable outcomes you hope to achieve? What is the likelihood of a substantial result from the grant (peer-reviewed publication, creative work, usable product, public attention that can impact public policy, external funding, etc.)?

- **Characterization of physiology in Low-line Angus Cattle**
  - Age of puberty
  - Expression of estrus
  - Rumination parameters and interaction with differing diets in adult and young cattle
- **Identification of the effect of acclimation and stress on rumination**
- **Identification of the effect of routine animal care (ie. Vaccinations and castration) on rumination**
- **Validation of collars for use in sheep and goats**
- **Validation of collars for use in grazing beef cattle**
- **Improvement of management procedures and outcomes at the Animal Science Barn**
  - Improvement of pregnancy rates (artificial insemination and embryo transfer)
  - Decrease in calf mortality and calving difficulties
  - Improved rate of treatment to illness, mitigation of negative effect of routine management protocols, and enhanced animal welfare
  - Identification of optimal diets
  - Decreased labor requirements during estrous detection and calving seasons
- **Assistance with development of 3rd party software interface for beef cattle and small ruminant management programs with SCR software.**

I fully anticipate that the above outcomes will independently or combined together will be adequate to produce peer-reviewed publications and or abstracts. In addition, assistance in working with SCR to create an interface for 3rd party management software would positively impact end-users of both products.

VII. Evaluation & Dissemination

How will you measure whether or not you have achieved the outcomes described above? What scholarly product(s) do you anticipate would come from this project? In addition to presenting at a campus event, what are your plans for dissemination (peer-reviewed publication, creative work, usable product, public attention that can impact public policy, external funding, etc.)?

For me first and foremost a measurement of success does not lie with a publication, but with a learning opportunity for the students. If the student researchers are able to participate from start to finish in a project-from experimental design through presentation of a competed, analyzed project with the ability to comprehend why we made the decisions we did and what the greater implications of the data suggest, it is a success.

With that being said, students leading a research project will submit at a minimum a peer-reviewed abstract to either the Midwest American Society for Animal Science meeting or the Annual American Society for Animal Science meeting, both of which have international attendees. Should the data from these projects be robust enough, subsequent manuscripts will be submitted to the Journal of Animal Science, Professional Animal Scientist, or equivalent journal based on topic.

As this work is very applied, there is also potential opportunity for this data to be used by the Low-line Angus Association for direct dissemination to breeders and opportunity for this information to presented in Extension documents available to producers.

VIII. Impact Statement

How will this project affect existing University infrastructure? For example, what physical spaces are needed for this project? What kinds of ITS support or resources would be required? What other programs or departments would be affected? What are the implications of these requirements?

The physical spaces for the SCR Heatime® Pro System will have little impact to existing infrastructure. The PC and operating system will require office space. At this time, it is proposed for the computer to replace existing units currently in place. Additionally, the receivers will be installed on the current barn structure, but will cause no interference with the infrastructure once in place. The collars, if and when not in use will require storage. The laboratory space available at the Animal Science barn will provide sufficient space. The proposed package includes installation of all hardware and software by the manufacturer. Should the new computer system replace existing models, ITS may be needed to install any UF specific programs required for use by the management team at the barn. I do not foresee any additional impact on other programs or departments at this time.

IX. Budget Justification

Your budget should support with numbers the methods and activities you describe above. Explain how and why specific expenditures are necessary for the proposed activity. The budget should be reasonable for both the effort and the anticipated results. A specific breakdown of expenses associated with the project must be included. Provide a detailed explanation of other sources of funding. If requesting seed money for an external grant, identify the source of the

external funding. If your total estimated project expenditures exceed $10,000, identify additional sources of funding.

Attached you will find the quoted price for the Heatime® Pro System, totaling $18,690.00. The system includes a PC, operating system, software license, training, installation, technical support, extended warranty, receivers, and sixty collars. All of these items would be necessary for installation and use specific to the Animal Science facilities.

This is a significant one-time investment, which would exceed the grant of $10,000. The Animal Science department will cover the remainder of the balance. In addition, the initial investment covers an extended warranty. If further repairs or upkeep of the equipment is incurred, it will also be covered by the Animal Science budget. As I've outlined, this investment would not support a singular activity or student, but would have large reaching and long term benefits to the students, faculty, and management staff. I anticipate that easily 2-4 undergraduate research projects per year can be conducted utilizing this system, of which all would have the potential for peer-reviewed abstracts and or manuscripts at the national and international level. In addition, once the system is in place the information garnered has the potential to replace or offset other research costs associated with sample analysis, supplies, and labor. I also anticipate an improvement in reproductive success associated with improved ability to detect appropriate breeding times and improved health monitoring which will lead to quicker treatment of illness and faster response to animals in distress, which will ultimately reduce animal loss and improve overall animal welfare. Not only will this reduce the overhead costs associated with running the Beckett Animal Science Building it will also position the University of Findlay and the Animal Science Program to be at the forefront of adaptation to industry technology and be at the pinnacle of providing a best-in-class animal science education. In addition, there is huge potential to incorporate this technology into our Animal Handling and Animal Production courses to highlight the benefit of adding technology to animal management.

An important item to note is that is this an expandable system, and should resources become available in the future, and research or management would require additional collar units they could be added at that time point.

X. <u>For Emerging Faculty Grant Applicants only</u>

How specifically does the proposed project contribute to your long-term professional trajectory? How does it advance your professional growth and/or impact your professional identity?

Click or tap here to enter text.

References

Ambriz-Vilchis, V., N.S. Jessop, R.H. Fawcett, D.J. Shaw, A.I. Macrae. 2015. Comparison of rumination activity measured using rumination collars against direct visual observations and analysis of video recordings of dairy cows in commercial farm environments. J. Dairy Sci. 98(3):1750-1758.

Bar, D. 2010. Daily rumination time and calving diseases. Proc. 26th World Buiatrics Cong., Santiago, Chile. http://www.kenes.com/buiatrics/cd/pdf/153.pdf. Accessed Nov. 30, 2011.

Bar, D., and R. Solomon. 2010. Rumination Collars: What Can They Tell Us. Pages 214–216 in Proc. First North American Conference on Precision Dairy Management, Toronto, Canada. University of Toronto Press, Toronto, Canada.

Burfeind, O., K. Schirmann, M. A. G. von Keyserlingk, D. M. Veira, D. M. Weary, and W. Heuweiser. 2011. Technical note: Evaluation of a system for monitoring rumination in heifers and calves. J. Dairy Sci. 94:426–430.

Byskov, M. V., A. Schulze, M. Weisbjerg, B. Markussen, and P. Nor- gaard. 2014. Recording rumination time by a rumination monitor- ing system in Jersey heifers fed grass/clover silage and hay at three feeding levels. J. Anim. Sci. 92:1110–1118.

Goldhawk, C., K. Schwartzkopf-Genswein, and K.A. Beauchemin. 2013. Technical note: Validation of rumination collars for beef cattle. J. Anim. Sci. 91:2858-2862

Schirmann, K., M. A. G. von Keyserlingk, D. M. Weary, D. M. Viera, and W. Heuweiser. 2009. Technical note: Validation of a system for monitoring rumination in dairy cows. J. Dairy Sci. 92:6052–6055.

http://www.scrdairy.com/herd-intelligence/scr-heatime-hr-system.html

SCR by Allflex
Make every cow count

PURCHASE ORDER
Standard Terms

TO: SCR Dairy Inc.
2013 S. STOUGHTON RD
MADISON, WI 53716

4/5/17

Please supply the following products, subject to this Purchase Order ("**PO**") **and the Terms and Conditions, attached as Exhibit 1:**

Customer		
Farm Name	University of Findlay – Animal Science	
Farm Delivery Address	1102 N Cory St	
Farm City, State, Zip	Findlay, OH 45840	Email:
Delivery Phone & Contact		
Billing Address (if different)	1000 N Main St, Findlay, OH 45840	
Billing Phone		Email:
Sales Agent and Distributor	Ben Wilson, SCR Dairy	
Sales Agent Phone and Email	717-925-6440, ben.wilson@scrdairy.com	
Install Project Type	Heatime® Pro LITE (MSRP $10,000 less $2,500 instant rebate for CASH sales; Q2-17)	
Additional Equipment	BU500e	

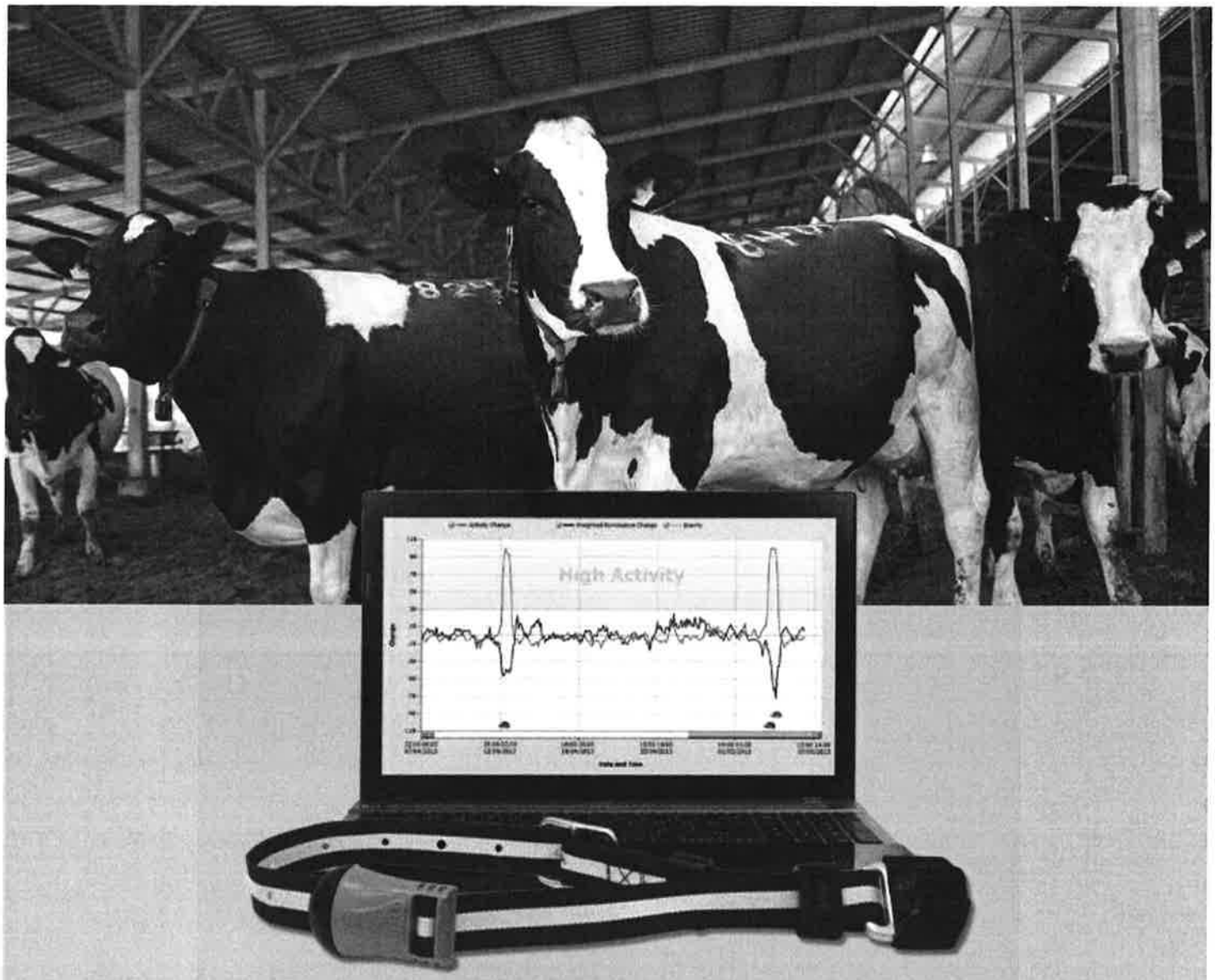
Product	Quantity	Price	Total
HR LDn Collars MSRP $168 less $8 volume discount; Q2-17 special	60	$ 160.00	$ 9,600.00
HR LDn Tag Extended Warranty See attached; 6% of tag price at time of purchase thru day 60, 9% 61 days to two years from install	60	$ 9.60	$ 576.00
HR LDn Tag Extended Warranty free of charge in lieu of $5 instant mfg rebate; Q2-17 special	-60	$ 9.60	$ (576.00)
Installation includes software license, PC or Heatime operating system warranty service, training, first year support plan	1	$ 7,500.00	$ 7,500.00
BU500e	1	$ 1,375.00	$ 1,375.00
Shipping Estimate			$ 215.00
Total			**$ 18,690.00**
Down Payment	20%		**$ 3,738.00**
Balance			$ 14,952.00

- Buyer assumes full responsibility for the payment of all freight/shipping expenses and applicable taxes with respect to this PO.
- All payments shall be made against a duly issued invoice, payable to SCR Dairy Inc.
- Any additional A/C power units installed prior to, the day of, or after install to accommodate SCR equipment will be at the cost of the customer

*Warranty Certificate is attached as Exhibit 2 to this PO.

Buyer's Signature	**SCR Dairy Inc. Signature**
Signed By:	Signed By:
Date:	Date:

Please initial pages 2-5. *** This PO expires 45 days from receipt and needs to be turned in to the SCR Madison Office completed and signed to be accepted. Any PO returned after 45 days may be subject to new pricing.



SCR Heatime® Pro System

Now available with **5 new applications**

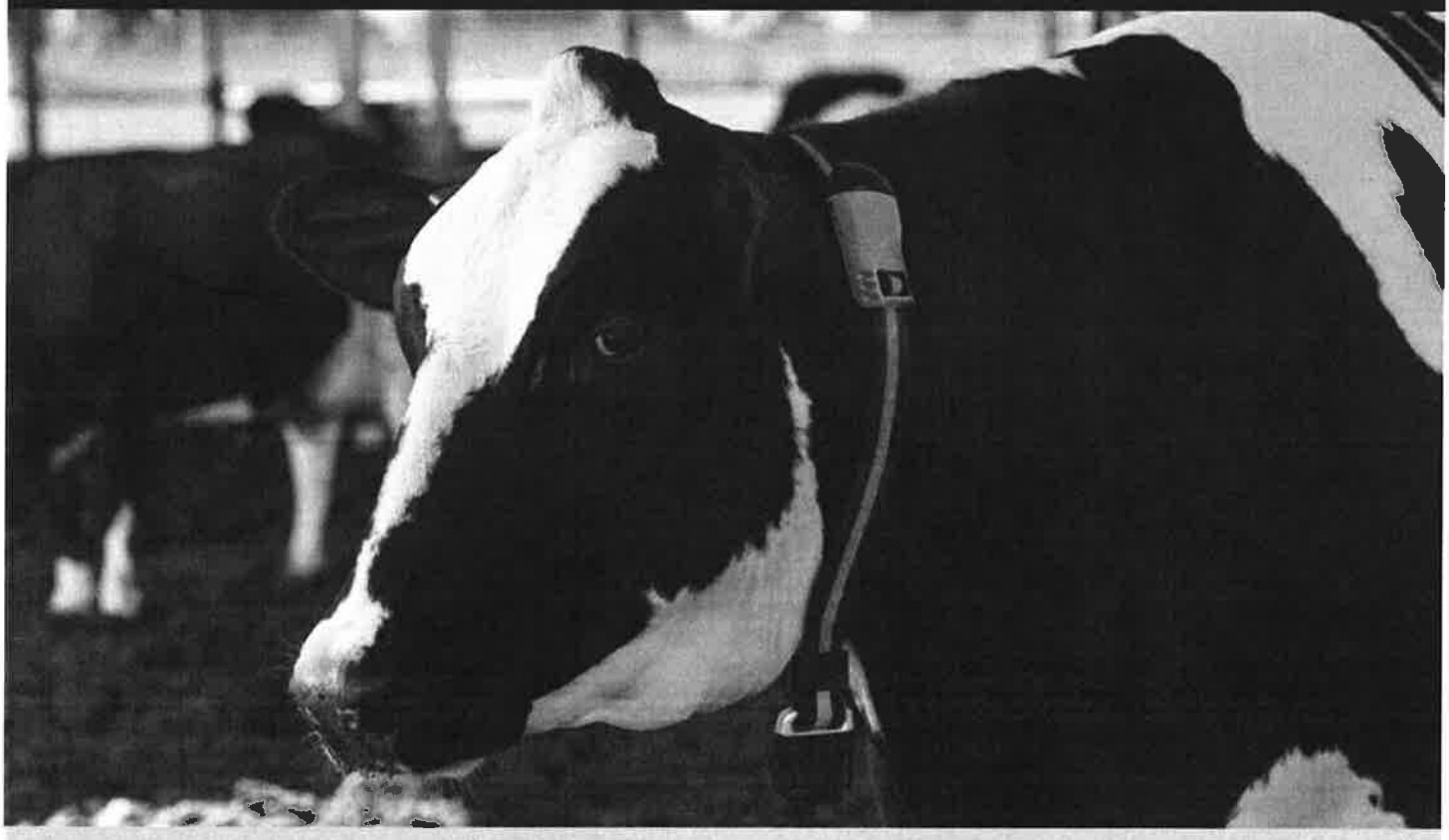
SCR by Allflex
Make every cow count

Boost your management capabilities with SCR Heatime® Pro System

SCR Heatime Pro is an advanced, yet easy-to-use, centralized monitoring system designed for large dairy farms.

SCR Heatime Pro provides powerful capabilities that simplify and improve decision-making in multiple areas:

- **Reproduction**
- **Health and wellbeing**
- **Group Monitoring**
- **Distress Alerts**
- **Heat Stress**



Put powerful data management to work

Efficiently access and follow up on accurate and advanced data on individual cows, groups and herd.

- Detailed cow card – Starting from date of birth, with life-time events reporting and description
- Groups management
- Logical checks – Data entry validation assures database quality and reliability
- Batch event edits and reporting – Save time

Customize to your needs

Create, define and change multiple reports and dashboards. With this flexible solution, different users can easily and quickly access the information and data management functions most relevant to them.

- Users can build their own reports from a large set of report options
- Reports can be imported and exported

Enjoy a user-friendly tool

Make effective, data-driven decisions at the speed of business, with this fast and responsive management system.

- User-friendly interface and powerful data processing minimize system response time and enable users to quickly access reports, implement changes, and share information
- Multi-user, 24/7 access to cow monitoring data management

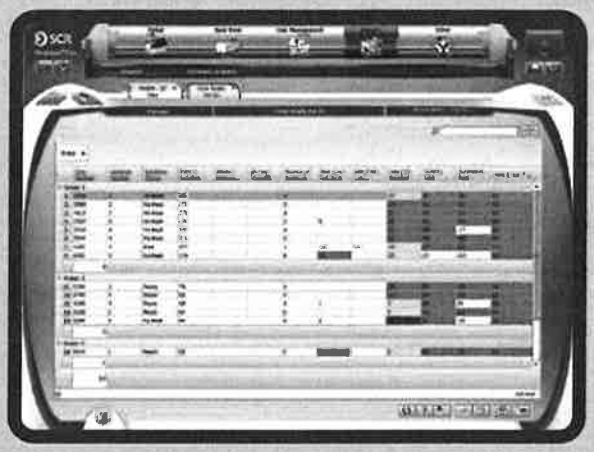
Grow with an integration-ready, scalable solution

Your investment is protected with a system that is designed for integration and features robust third-party connectivity, optional upgrades, and parlor integration.

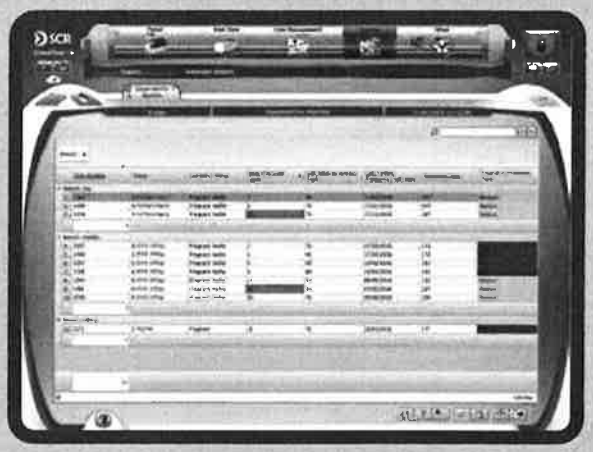
- Easy software integration with industry-leading herd management systems* – Leverage your existing workflow for greater ease-of-use and time savings
- Seamless integration to a complete parlor management system
- Can be integrated with auxiliary systems – Sorting gates, walk-on scales, individual feeding, and more

*Integrates with the following systems: DC305, PCDart, DHI, HERDE, Bovisoft , Uniformagri and more.
Contact your local SCR representative or partner for more information and an updated list.

REPRODUCTION MANAGEMENT



Heat Report



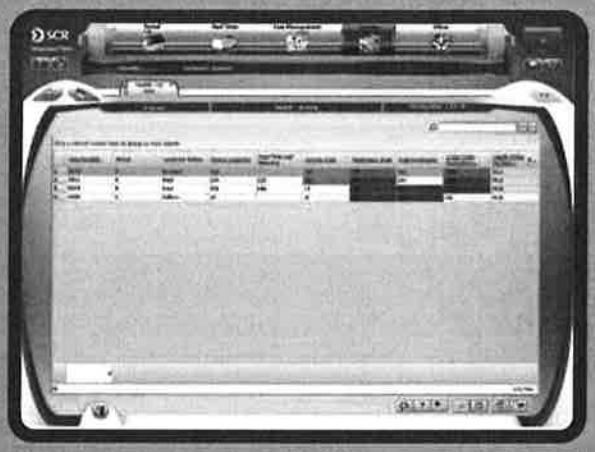
Suspected for abortion

In addition to highly accurate heat detection and monitoring, the SCR Heatime Pro System provides effective reproduction management tools.

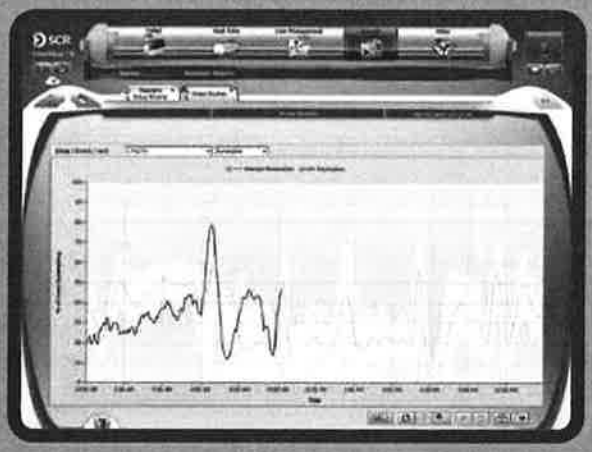
- Advanced Heat Index tool, based on activity, rumination curve, heat length, and time since the previous cycle – Enhances heat detection and reduces false positives during pregnancy, decreasing checks for possible abortions
- Separate reports for Cows to Inseminate and Cows in Heat – Facilitates management of your to-do list
- Group Masked Heat report – Improves heat detection in grazing groups and whenever the group activity level is high
- Set of reports with detailed information on cystic cows and un-estrus cows – For enhanced monitoring of reproduction problems
- Dry-off recommendations based on body condition scoring (BCS) – For improved performance in the next lactation

NEW - Suspected for abortion Report – Calculate the probability of pregnancy and possible abortion for all post-AI cows.

HEALTH AND WELLBEING MANAGEMENT



Health Report



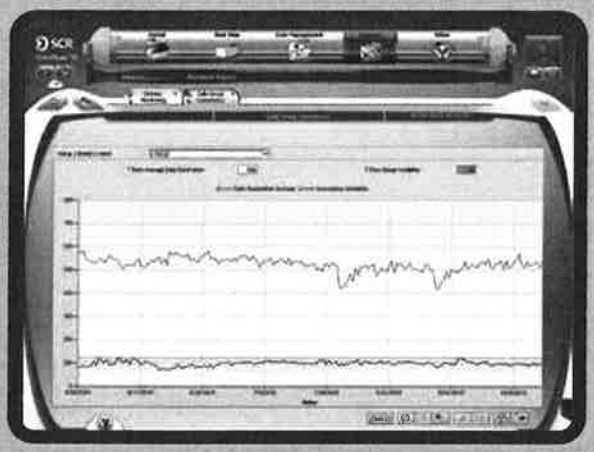
Group Routine Application - Rumination Graph

Improve your health management capabilities, with lifetime cow card history and individual health reports.

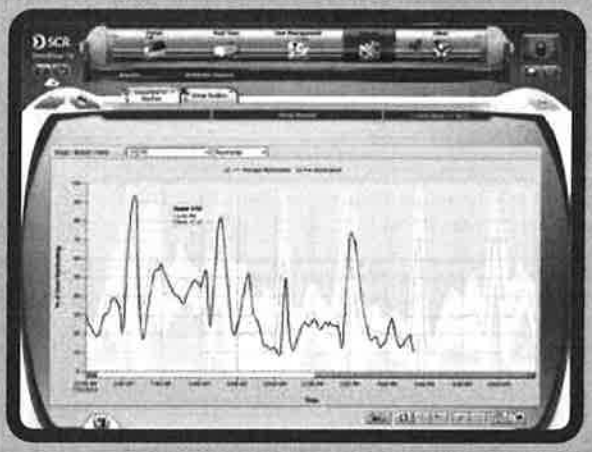
- Cows are scored in the health report based on severity
- Calving ease monitoring and reporting – For enhanced monitoring and insight into calving diseases, reproduction problems, and herd KPIs
- Vet visit protocols – Detailed protocols and action items list following a vet visit
- Distress monitoring across the whole lactation – Beyond post-calving

NEW - Real-Time Group Routine Application – Real-time updates highlight unusual activity or rumination at the group or herd level pointing to issues like spreading illness, group panic, stress, and more.

GROUP MONITORING



Group Consistency Graph



Group Routine Graph

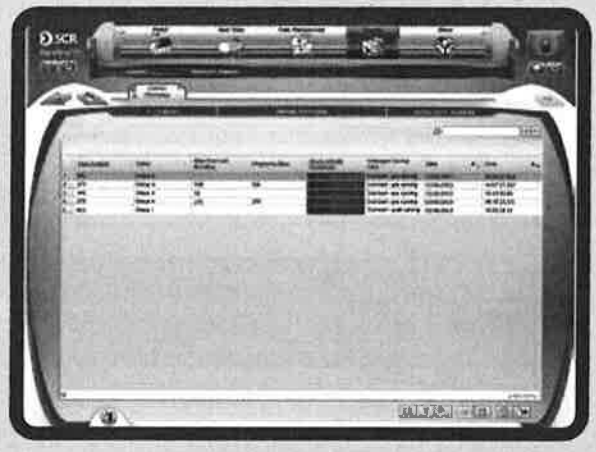
Nutritional changes can be monitored and managed through the SCR Heatime Pro System, with visibility into rumination averages of groups and whole-herd patterns.

- Individual concentrate ration – Individual feeding in-parlor and out-of-parlor based on predefined reports
- Feeding efficiency management – By monitoring variations in rumination between cows and in comparison with rumination trends

NEW - Group Consistency Application – Monitors and analyzes long-term rumination trends and highlights any irregularities due to changes at the group level, such as feeding changes, opening a new silage bunker, adjusting the ration, infiltration of rotten feed, and more.

NEW - Group Routine application – Stay updated, in real time, with the status of your groups and your herd as a whole. The Group Daily Routine application highlights irregularities in activity and rumination in real time at the group or herd level that may point to issues in the routine. These include feed and water supply issues, spreading illness, group panic or stress, or other disruptions to a stable daily routine.

CALVING MANAGEMENT



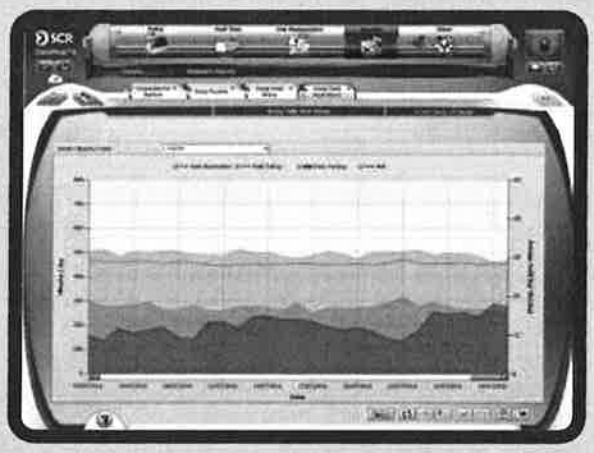
Distress Calving Report

The ProCalve™ suite of applications includes alerts that help you safeguard the health of your cows in the critical and sensitive time around calving.

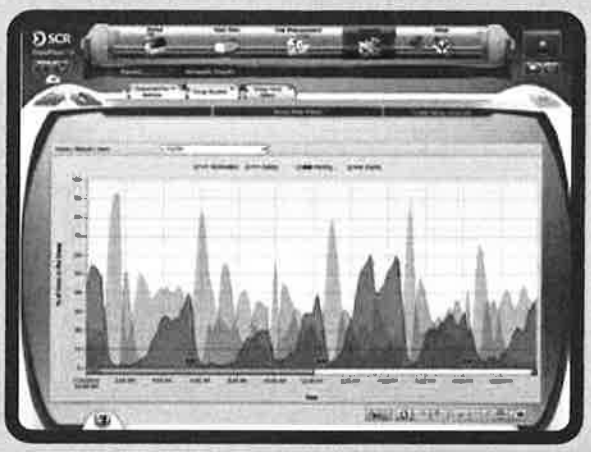
NEW - Pre-Calving Distress Alert – Get real-time alerts and gain essential insight on cows experiencing unusual stress around expected calving time, based on the length of time rumination is low.

NEW - Post-Calving Distress Alert – Minimize the impact of a calving disease, with early warning of a post-calving problem. The SCR system closely monitors each cow during the initial days after calving and provides a specific distress alert in the event that rumination stops beyond what is normal.

GROUP HEAT STRESS MONITORING



Daily heat stress



Group heat stress

HEAT STRESS APPLICATION

Gain real-time insight into how your groups are coping in warm temperatures, and leverage that knowledge to make more effective heat mitigation decisions.

NEW - Heat Stress application – The application displays the current status and 48-hour trend of panting, rumination and eating, all in five-minute resolution. By providing a clear picture of the group's heat stress trend, the application enables you to see immediately if a group is getting overheated and to easily analyze the effectiveness of your heat mitigation strategies. With this near-real-time insight available to you anytime and anywhere, you can cool cows only when really needed, saving water, energy and labor.
Additionally, you can review group heat stress trends in daily resolution to anticipate any effects on calving intervals and on your annual production planning.

SCR HEALTHYCOW24® SOLUTION

Stay connected - anytime, anywhere !
The SCR HealthyCow24 Solution enables Heatime Pro users to stay connected to the farm through new mobile and web applications.

Full mobility

Stay connected and in control of your farm from anywhere. With access to your farm data from a mobile device or computer, get real-time alerts and reports and always stay connected and in control.

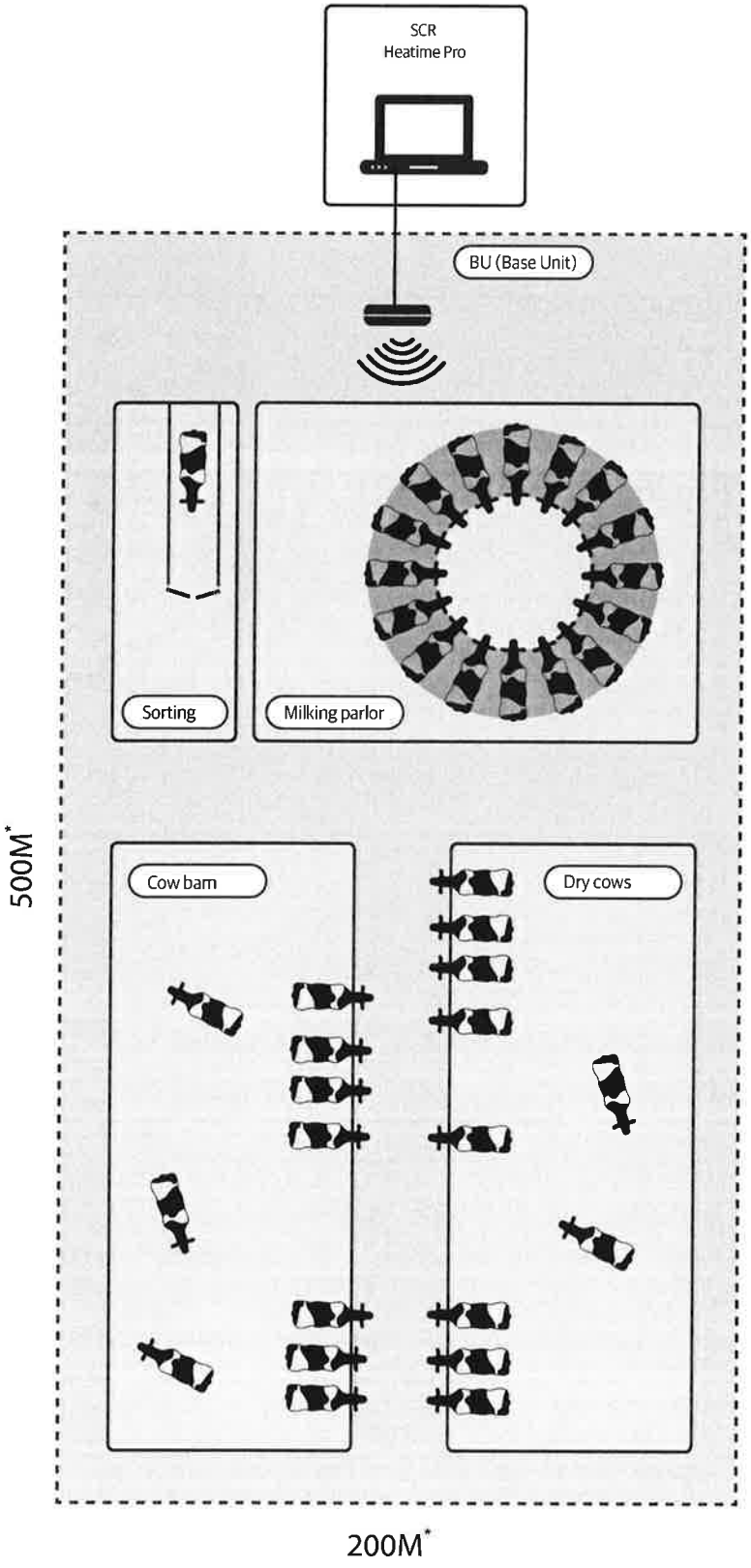
Enhanced management

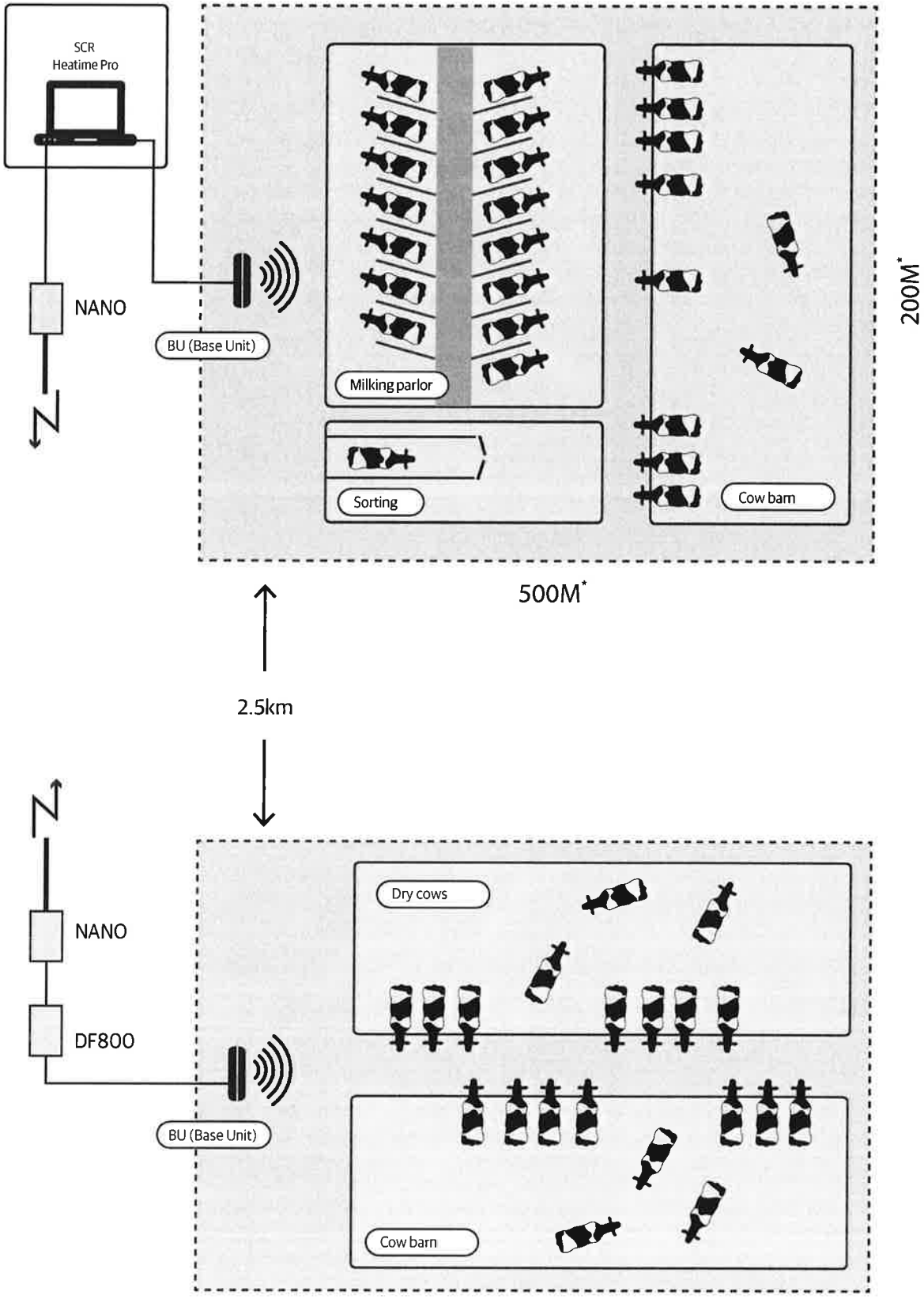
Make better, data-based decisions by seeing the big picture at a glance, with drill-down options to data and graphs by individual cow, group or herd.

Advanced service

Ensure reliable access to your farm data, with online backup and restore, and easy remote software upgrades.

EXAMPLE OF LONG DISTANCE INSTALLATIONS LAYOUT





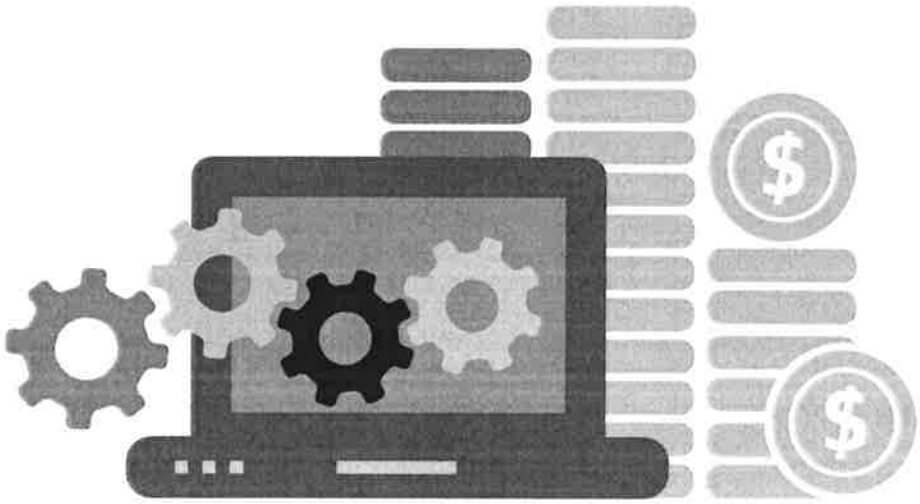
* Typical range of SCR Radio Frequency Base Unit: 200-500 m (656-1,642 ft) based on farm audit

SCR Heatime Systems pay for themselves, quickly

SCR Heatime Systems provide dairy farmers with a very fast return on investment – typically paying for themselves in a matter of months.

The systems save time and costs across multiple aspects of dairy farm operations. They drastically reduce the amount of time spent on labor-intensive tasks like visual observation for heat detection and health. Costs are saved on hormone treatment and pregnancy testing, and revenues are boosted by a higher conception rate and shorter calving interval, with associated increases in milk production. Illness can be detected early, before it diminishes productivity, enabling prompt treatment to prevent further deterioration or cow losses. Additional time is saved by the data management and reports, which provide cow- and herd-level insight at a glance.

Additionally, with its ROI Calculator tool, SCR provides farmers with an individualized, accurate estimate for how long it will take to gain a full return on their investment in an SCR Heatime System.



Product Specifications

Maximum number of tags	6000*
Tag compatibility	H-LD, HR-LD, HR-LDn
Cow card	Lifetime data history
Herd groups	Herd can be divided into multiple groups
Sorting gate	Up to 5 sorting gates of 2 or 3 ways
Third-party interface	Yes - Contact your local SCR representative or SCR partner for more information and an updated list of supported third-party systems
Users	Multiple, customizable dashboards to enable different users access and permissions
Long-distance coverage	Typical range of SCR Radio Frequency Base Unit: 200 X 500 m (656 X 1,642 ft) based on farm audit

*The maximum number of supported tags may be higher or lower depending on the farm layout. An SCR review is required prior to purchase and installation.

The NEW HR-LDn tag

- Same functionality as the HR-LD tag – Monitors heat and health
- Improved mechanics and electronics, including new sensor for better performance and new NFC chip for future tag management applications
- Improved software – More reliable with better future upgrades capabilities
- Optional new belt buckle welded in one piece provides stronger performance and holds the belt end perfectly in place

Size	84.1 mm x 64.5 mm (3.3 in x 2.5 in)
Weight	98 gr
Housing	Waterproof (IP68) durability and unique plastic composition creates an air-tight, strong casing, protecting the tag insides for its full lifetime
Operating temperature	-30°C to 50°C (-22°F to 122°F)
Expected battery life time	7 years

SCR. Make every cow count

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University of Findlay

Faculty Development ETS Grants 2017-18 Application Form

Application deadline: Friday, May 19, 2017

Email completed applications as one PDF to facultydevelopment@findlay.edu

Following is the ETS Grant submission form. To be considered, the cover page must be completed and each of the items on the submission form must be addressed. Be sure to write your proposal in clear language that can be understood by reviewers outside of your discipline. Application includes minimum requirements; applicants are encouraged to add supporting materials or any relevant documents that would strengthen their proposal.

ETS Grant Application Cover Page

Name(s) and College(s) of all applicants:

(College of Liberal Arts)

Title of Project:

LED Lighting Equipment for Creative Production in the Powell-Grimm Theatre

For which grant you are applying?

Teaching Grant ☐ Research/Creative Production Grant ☐ Emerging Faculty Grant ☒

Amount of Funds Requested:

$ 9850.00

For Faculty Development Committee to complete.

Date of Submission:

Date of Confirmation of Receipt:

Total Funds Awarded:

Date of Notification of Review Decision:

Date of Receipts Received:

Funds Disbursed:

Date Final Report Submitted:

Project Title: LED Lighting Equipment for Creative Production in the Powell-Grimm Theatre

I. Statement of Problem or Need

What is the problem or need to be addressed? What is the basic idea, problem, or rationale for the research question that is the focus of the proposal? Support your statement with citations from research and reliable sources.

The Faculty Development ETS Grant will help address several program needs including: student educational needs, faculty creative work and faculty professional development.

In this proposal, I request funds to purchase specialized lighting equipment for the Powell-Grimm theatre. The equipment provides high-quality LED lighting instruments for mainstage productions, student coursework and faculty creative work.

The grant's LED equipment will augment the current non-LED lighting equipment within the theatre program's inventory. At the moment, students have access to four obsolete DJ-style LED lighting instruments in the department's lighting laboratory. The current equipment poorly prepares students for the variety and quality of professional LED lighting equipment used in the theatre industry.

As an example, the Marathon Center for the Performing Arts (MCPA) has 48 standard LED lighting instruments and 6 automated LED lighting instruments in their house inventory (this does not include lighting equipment brought into MCPA by touring companies such as national Broadway tours). Students working over-hire opportunities at MCPA or professional internships have not developed a familiarity with LED equipment before arriving on-site. As a result, this puts our students at a skills disadvantage.

The new equipment would allow students to further their lighting skills in the following areas:

- LED versus Conventional Equipment Color Mixing
- LED Data Control and Programming
- LED Cabling
- LED Color Choices (learning color mixing using different LED emitter colors)

Approximately 100-120 university students will benefit each year from the inclusion of the LED equipment in practical assignments across the University's theatre curriculum which includes two general education design and technology classes (Introduction to Theatre Design and Stagecraft).

Undergraduate students using the equipment would include theatre majors, students participating in our scholarship program and work-study students. Students would interact with all aspects of the equipment: installation (hang/focus), cabling, data control and visualization. In

the long-term, as the program gains new design and technology emphasis majors over the next few years, students will have opportunities to craft creative work using the equipment.

Similarly, this proposal would support faculty creative work and mainstage theatre productions. An LED lighting instrument "opens" up the color palette for lighting designers. A standard lighting instrument typically accommodates a single lighting color filter (known as a gel). During a modern stage production, gels determine the overall color palette.

Through additive color mixing, light direction and composition, lighting designers can "mix" different lighting instruments to create realistic lighting environments or motivational lighting moments. An LED light can provide a variety of different color options and change throughout a production. Complex productions (such as musicals, Shakespearean productions or dramas in a postmodern style) rely on a high-degree of lighting flexibility.

Finally, as budget costs continue to rise for physical scenic units, LED lighting equipment provide opportunities to shift productions towards lighting design driven productions instead of scene design dominant productions.

II. Significance (to your field and to your work at UF)

How does this problem impact your field and why is it important? How does this project fit into your teaching philosophy and/or creative production/research agenda as a faculty member at the University of Findlay?

The educational impact for our theatre students would be significant. At the current moment, students taking THEA 102: Introduction to Theatre Design and THEA 110: Stagecraft (General Education courses) rely on experiential learning for the lighting design/technology segment of the course. While there are benefits to teaching lighting technology in a lecture format, hands-on experience is much more meaningful at the 100-level. Students immediately see the impact of their design choices within a limited space (14' square). During the semester, students learn basic color-theory, elements of lighting composition and make artistic choices. At the conclusion of their projects, students share their creative work with the class at-large.

At the current moment, with regards to theatre majors/minors, it is not possible for these students to develop hands-on, practical applications of theatrical LED lighting technology on-campus. The lack of experience with the technology impacts students entering the theatre design and technology fields, as fluency with LED technology is an essential skill.

Also, this project may result in current theatre majors taking an increased interest in upper-division design courses and participate as assistant designers during mainstage productions.

Finally, by expanding the theatre's lighting technology, I will be able to realize a higher quality of creative work for mainstage theatre productions.

III. Connection to the Big 8

How specifically does the project align with the University's strategic goals (Big 8)?

- Equip students for meaningful lives and productive careers
- Improve academic programs continuously through rigorous assessment
- Grow targeted enrollment
- Enable exceptional student learning
- Develop the whole person through individual attention
- Embrace professional, cultural and intellectual diversity
- Provide experiential learning in every program
- Build best-in-class strategic resources

Goal 1: Equip students for meaningful lives and productive careers

Several of our students participate in off-campus over-hire opportunities at local performing arts centers including the new Marathon Center for the Performing Arts (Findlay, OH) and the Niswonger Performing Arts Centre (Van Wert, OH). I believe that prior hands-on experience with LED equipment would significantly benefit students in professional venues. In addition, students would be expected to interact with LED equipment before pursuing graduate study in lighting design and technology.

Goal 2: Grow targeted enrollment

LED lighting technology is an essential educational resource and professional skill set for students majoring in theatre (particularly design and technology emphasis students). LED technology is increasingly being brought into the high school level. As an example, throughout the theatre program's recruitment visits at Michigan and Illinois Thespians, I encountered a couple high-quality students looking for schools with contemporary lighting technology. Despite the educational benefits in learning effective lighting techniques, color theory and a variety of lighting equipment (including obsolete equipment), students wanted to attend schools with contemporary industry technology.

However, this is an opportunity for recruitment as many smaller theatre programs cannot dedicate resources to purchasing LED lighting equipment. By promoting the university's new resources, the theatre program would make a stronger argument to local high school students about the educational resources available at the university and prospective theatre majors.

As an additional benefit, the lighting laboratory supports our annual high school workshop. I present lighting design techniques to students interested in future fine arts careers.

While our theatre program continues to build up the lighting laboratory space, we recognize a potential opportunity for our undergraduate students and local high school students to learn about modern LED lighting equipment within the performance industry.

Goal 4: Excel at teaching (Enable exceptional student learning)

In Fall 2015, The University of Findlay's theatre program repurposed its old scene shop space into a new lighting laboratory space. The program assembled a fourteen-foot steel pipe cube

with a variety of conventional lighting fixtures, DJ-style LED wash lights (low-quality and obsolete instruments) and two purchased ETC Smart Module dimmers (power distribution).

I taught several class lectures in the reclaimed learning space including Introduction to Theatre Design and Stagecraft (Stage Technology). In the upcoming year, the lighting laboratory will be used for the following lighting design and technology lectures:

- THEA 102: Introduction to Theatre Design (*offered both semesters and a CORE+ course for University of Findlay students*)
- THEA 110: Stage Technology (*offered both semesters in AY 2017-2018 and a CORE+ course for University of Findlay students*)

Moreover, there are other theatre courses which could benefit from the space while discussing lighting design and technology (such as THEA 261: Directing for the Theatre, THEA 185: Makeup for the Stage, etc.)

Goal 7: Provide experiential learning in every program

The Powell-Grimm theatre provides experiential learning for all theatre students. Each academic year approximately 120 undergraduate students will interact with the theatre program's lighting inventory either through general production use and/or the lighting laboratory.

- THEA 102 – Introduction to Design (approximately 50 students during the academic year – general education course). Students receive lighting demonstrations in the theatre program's lighting laboratory. At the end of semester, students explore stage lighting through a series of assignments.
- THEA 110 – Stagecraft (approximately 32 students – general education course). Students receive practical lighting demonstrations in the theatre program's lighting laboratory. For their final project, students create a short lighting sequence from a piece of music.
- Upper-division design courses (Required for Design/Technology Emphasis Students)
- Theatre scholarship students (approximately 30-40 students each year either majoring in theatre or interested in theatre production).
- Theatre performance courses using the lighting laboratory to explore lighting design's impact on directing and devised theatre work.

IV. Activities and Methods

What activities will you implement to achieve your outcomes? What is the research methodology you are going to use? What, if any, preliminary work has been done for the project?

Mainstage theatre productions: During the academic year, the theatre program presents four dramatic productions for the community. For student learning, we model a small professional theatre's production hierarchy/leadership structure and supporting departments (costumes, scenic artist, electrics, etc.). During a theatre student's time at the University of Findlay, they will explore an increasing set of management tasks and leadership responsibilities.

Over the academic year, students will learn a certain set of production skills, demonstrate skills in the theatre, and become efficient in these practical theatre skills. Students continuing in electrics will be trained in more advanced skills and be given specific leadership roles (master electrician or assistant master electrician).

<u>September production</u>

(1) Skilled students in lighting technology (student master electricians and assistant master electricians) will learn basic instrument assembly, maintenance and cabling techniques for LED lighting equipment. These students will serve as a peer-mentoring group as more students interact with the technology.
(2) Faculty creates production's lighting design for public performances.
(3) Student electrics crew works on patching the equipment into the lighting console. Create lighting design for the production during technical rehearsals.

<u>November production</u>

(1) The student electrics crew learns equipment installation (hang/focus), maintenance and cabling techniques. Skilled students in lighting technology will learn data control, power distribution and equipment patching at the lighting console (computer control).
(2) Faculty creates production's lighting design for public performances.
(3) Theatre program documents the design work for recruitment purposes. Dr. Walling archives the work for a future presentation (exhibition) at a national conference.

<u>February Production @ MCPA (Musical Production)</u>

(1) Student electrics crew installs lighting equipment at MCPA in an eight-hour load-in call (similar to a professional electrics crew). Skilled students in lighting technology will led this process on-site.
(2) Faculty creates production's lighting design for public performances.
(3) Theatre program documents the design work for recruitment purposes. Dr. Walling archives the work for a potential presentation (exhibition) and professional credentialing.

<u>April Production @ MCPA (Musical Production)</u>

(4) New, first-time student master electricians and assistant master electricians will learn data control, power distribution and equipment patching at the lighting console (computer control) – similar to the November production.
(5) Faculty creates production's lighting design for public performances.
(6) Theatre program documents the design work for recruitment purposes. Dr. Walling archives the work for a potential presentation (exhibition) and potential professional credentials (United Scenic Artists)

Coursework: Students enrolled in THEA 102 and THEA 110 work with select LED lighting equipment in the theatre's lighting laboratory (ETC ColorSource PAR). Students will develop realized lighting projects based on current assignments in each course.

November 2017
THEA 102 – Students develop lighting moments for a classic five-act play. Students work with lighting composition, color theory and lighting research.
THEA 110 – Students develop lighting moments for a three to four-minute piece of music. Students develop their projects based on lighting composition and light console programming.

April 2018
THEA 102 – Students develop lighting moments for a classic five-act play. Students work with lighting composition, color theory and lighting research.
THEA 110 – Students develop lighting moments for a three to four-minute piece of music. Students develop their projects based on lighting composition and light console programming.

V. Timeline
Provide a realistic timeline of major project activities.

August 2017: The theatre program purchases all lighting equipment, accessories and cables from a major theatrical supplier (such as BMI Supply, Vincent Lighting or Production Advantage).

September 8th: The theatre program receives equipment. Dr. Walling teaches student master electricians and assistant master electrician basic instrument assembly. Students complete a post-shipping test of all instruments and supporting equipment.

September 18th – October 1st: Students and faculty install equipment for 1st mainstage production (production TBA). The student electrics crew learns cabling techniques for LED lights. Dr. Walling creates a lighting design for the production before technical rehearsals. The program documents the production's lighting design for potential design exhibit and theatre program recruitment.

October 30th – November 12th: Students and faculty install equipment for 2nd mainstage

production (Jean Anouilh's *Antigone*). The student electrics crew works on patching the equipment into the lighting console. Dr. Walling creates a lighting design for the production before technical rehearsals. The theatre program documents the production's lighting design for potential design exhibit during USITT 2018 and theatre program recruitment.

November 12th: Dr. Walling gives a LED lighting workshop for local high school students as part of the 2nd annual high school communication and theatre workshop.

November: THEA 102/110 students develop their lighting projects with a combination of conventional lighting instruments and ETC ColorSource PARs.

February 2018: Dr. Walling works with LED lights in the theatre's lighting lab and rough-ins lighting cues "blind" into the theatre program's lighting console for the currently unannounced musical production at Marathon Center for the Performing Arts (MCPA). Dr. Walling teaches all theatre scholarship students basic cabling for LED instruments before the quick load-in session at MCPA. Students install the lighting plot at MCPA.

February 18th – 25th: Dr. Walling creates a lighting design for the musical production during technical rehearsals. The theatre program documents the production's lighting design for potential design exhibit during USITT 2018 and theatre program recruitment.

March 14th – 17th: Dr. Walling presents lighting design work at USITT 2018 as part of the Design Expo 2018 exhibition.

March/April: Campus presentation coordinated through CTE.

April: THEA 102/110 students develop their lighting projects with a combination of conventional lighting instruments and ETC ColorSource PARs.

April 3rd – 15th: Students install equipment for the 4th mainstage production (*The 39 Steps*). Student electrics crew runs LED lighting installation, cabling, patching and troubleshooting. Dr. walling provides the production's lighting design prior to technical rehearsals. The theatre program documents the production's lighting design. During the process, Dr. Walling leads a theatre workshop on LED lighting for students in THEA 102, THEA 110 and interested theatre majors/minors.

June/July: Dr. Walling writes final report for the Faculty Development Committee. The report will be submitted before the September 1st deadline.

VI. Outcomes

What are the specific, measurable and observable outcomes you hope to achieve? What is the likelihood of a substantial result from the grant (peer-reviewed publication, creative work, usable product, public attention that can impact public policy, external funding, etc.)?

Educational outcomes: Student leadership and technological skills should increase throughout the academic year. Students will learn LED technology along with their production roles in electrics. THEA 102 and THEA 110 students will work with current theatrical LED technology. As an observable outcome, CORE+ students will create expressive work for their peers.

Moreover, the theatre program's faculty and staff will see the impact of technology on student leadership and collaboration skills. We will assess the student leadership experiences in our experiential learning rubrics for program assessment.

Creative work: There is a significant impact. The lighting equipment would be a major improvement on the current Powell-Grimm theatre lighting inventory. This enhancement would impact overall production design quality by widening each production's color palette and provide additional flexibility with instrumentation. As a measurable outcome, I plan to share my design work at the annual United States Institute for Theatre Technology national conference in 2018. As an observable outcome, the campus and local communities will see the impact of the improved lighting technology throughout the theatre's mainstage season (four productions).

Additional public attention to our design and technology program should positively influence student recruitment into the theatre program. This can be measured in number of theatre applications, number of design/technology applications and the number of first-time or transfer students coming to the university in Fall 2018. In the long-term, student design work will benefit from the new equipment (which will improve their design portfolios for job interviews). The theatre program can measure this through student design internships and job interviews.

External Grants: I would like to continue investigating external grant opportunities to overall the remaining lighting equipment within the Powell-Grimm Theatre. I have heard of university theatre programs applying for green technology external grants based on the long-term cost savings in LED technology. As such, there may be grant opportunities to update a significant portion of the lighting inventory.

The overall costs can be overwhelming. For example, according to BMI Supply and Production Advantage, the standard ETC LED ellipsoidal lighting fixtures cost about $1500 – 2400 depending on the lighting instrument's manufacturing generation and LED arrays. The required lens systems to shape the instrument's optics are an additional $200-300.

To place the costs in context with the Powell-Grimm theatre, at least 12 instruments would be needed to complete one full stage, front-wash in the Powell-Grimm Theatre due to lighting angles and architectural positions. The total cost for 12 professional-quality LED lighting instruments runs about $20,400 to $32,400. LED strip lights, which are used to light backgrounds and cycs, can run into the tens of thousands of dollars for a 28-foot proscenium opening.

This project will serve as an establishing baseline for future grant proposals.

VII. Evaluation & Dissemination

How will you measure whether or not you have achieved the outcomes described above? What scholarly product(s) do you anticipate would come from this project? In addition to presenting at a campus event, what are your plans for dissemination (peer-reviewed publication, creative work, usable product, public attention that can impact public policy, external funding, etc.)?

There are several methods for assessing the outcomes described in the above section.

Educational Impact: As an observable outcome, CORE+ students will create expressive work for their peers. We will assess the student leadership experiences in our experiential learning rubrics for program assessment.

Creative work: The four mainstage theatre productions would benefit from the lighting equipment. Each production shares its creative work with the UF community (students, faculty and staff) as well as Hancock County residents (including high school students, UF alumni and university donors).

Dissemination of scholarly products: Provide a formal exhibition of a UF theatre production at USITT's national conference in March 2018. The judging of the exhibition is peer-reviewed. Additional design work may be submitted for consideration at USITT or OISTAT events (peer-review design festivals).

Additionally, an on-campus presentation could be given through CTE. This presentation could cover the following: the equipment's functionality, how the equipment enabled high-quality student experiential learning and the resultant creative projects (both faculty and student design work).

Recruitment: This can be measured in number of theatre applications, number of design/technology applications and the number of first-time or transfer students coming to the university in Fall 2018.

External Grants: The faculty member identifies potential lighting technology, educational technology or green technology grants. The theatre program should apply to at least one external grant with a project focused on lighting technology, lighting design or lighting education.

VIII. Impact Statement

How will this project affect existing University infrastructure? For example, what physical spaces are needed for this project? What kinds of ITS support or resources would be required? What other programs or departments would be affected? What are the implications of these requirements?

The project would be a significant improvement to the Powell-Grimm theatre's lighting inventory. The LED equipment would be used in all mainstage productions within the Powell-Grimm theatre. The ETC ColorSource PARs would be utilized for lighting lab projects due to their low-cost and compatibility with the lighting lab's console.

While eight LED lighting instruments may not seem like a lot. The flexibility of LED lighting instruments provides significant opportunities for creative work. Through manipulation of external lenses and lighting angles. These lights can provide two pipe-end, side-light washes for the stage or a backlight stage wash. As an added advantage, the lighting equipment provides weight relief on the over-stage lighting positions (which is a major design limitation given the rigging system in the theatre). With less weight dedicated to basic stage washes on the over-head lighting positions, new design opportunities become available (such as adding

unique “specials” or individual lights for specific moments).

There is an additional benefit. Over time, LED lighting instruments “fade” color intensity as the LED lamps usage increases (total hours in use). It is possible for lighting equipment purchased over several years to have slight color differences when compared to each other. Purchasing similar equipment at the same time would lessen the variation between each lighting instrument. As such, the design impact of color fade should be minimal.

Additional ITS or facilities support would not be required for this project. Dr. Walling holds a terminal graduate degree in theatre design and technology with a specialization in lighting design. The lighting equipment merges with the Powell-Grimm Theatre & Lighting Lab’s power supply and dimmer system like other conventional theatrical lighting instruments (such as an ETC Source Four or an Altman Shakespeare). The project’s proposal contains all necessary cabling for lighting installation.

There should be a long-term cost savings due to the green technology. A standard HPL lamp used in an ETC Source Four costs about $14.00 for a 300 hour average lamp life.

- The ETC Desire Series D40 has a 50,000 hour LED life at 70% intensity. This would be the equivalent of 166.67 tungsten-halogen HPL standard-life lamps, which would cost $2333.33 over the instrument’s life.
- The ETC Color Source PAR has a 20,000 hour LED life at 70% intensity. This would be the equivalent of 66.67 tungsten-halogen HPL standard-life lamps, which would cost $933.38 over the instrument’s life.

Over time, the cost savings would exceed the initial purchase cost.

Other programs or departments would not be directly affected by this proposal. Students involved in theatre scholarship (50% - 60% of theatre scholarship students are non-majors) or CORE+ courses (THEA 102, 110, 210) would interact with the technology. So, an academic benefit could occur for students within other academic programs. Given the cost and risk of damage, the theatre program would be very hesitant to move the lighting equipment outside of the Powell-Grimm theatre.

IX. Budget Justification

Your budget should support with numbers the methods and activities you describe above. Explain how and why specific expenditures are necessary for the proposed activity. The budget should be reasonable for both the effort and the anticipated results. A specific breakdown of expenses associated with the project must be included. Provide a detailed explanation of other sources of funding. If requesting seed money for an external grant, identify the source of the external funding. If your total estimated project expenditures exceed $10,000, identify additional sources of funding.

Over the past two years, we have dedicated academic funds to modernize our lighting inventory and lighting education technology. In 2015, we purchased two ETC Smart Module

dimmers. In spring 2016, we supplemented our lighting lab's permanent inventory with a few ETC Source Four Juniors donated by a local performing arts venue after their recent renovation. In fall 2017, our program purchased a dedicated lighting console for the lighting lab (ETC ColorSource 20).

While our program continues to make small steps toward a dedicated lighting laboratory through small equipment purchases and donations, our request with this ETS Grant would represent a significant leap forward in our technology supporting student learning.

The two principal LED lights are the ETC ColorSource PAR and the ETC D40 Vivid. I have requested two different lighting instruments so our students can experience a greater variety of LED equipment. The overall quantity of each instrument type would create a consistent lighting wash within the stage space (based on photometrics and lighting angles assuming use as backlight or side light).

- The ColorSource PAR seamlessly integrates with our ColorSource 20 lighting console in the lighting lab. It is an entry-level LED wash instrument manufactured by an industry leader. This is a very common LED instrument within the professional theatre. As an example, MCPA uses 20 ColorSource PARs in their house inventory.
- The D40 Vivid is a high-quality LED wash instrument. The D40 has a significantly higher lumen output when compared to the ColorSource PAR. This would be a good variation of lighting technology when compared to the ColorSource PAR – it is used for different lighting angles and LED color choices. MCPA uses ETC D60s (the high-end version of this light) in their house inventory, so students would be familiar with a similar lighting instrument.

The beam control lenses are standard accessories for ETC's LED wash instruments. The D40 and ColorSource PAR use similar lenses due to their size (which will save costs and increase the inventory's flexibility). Students will learn how to modify the lens configurations and see the photometric impact of these design choices.

The data and electrical cables are appropriate for these lighting instruments. These cables will provide additional data and power distribution flexibility when combined with the theatre's current inventory.

Budget: Projected Costs (all prices obtained from Production Advantage's website on 5/19/17 unless noted otherwise)

LED Instruments

4	ETC ColorSource LED PAR	$ 805.00	$ 3220.00
4	ETC D40 Vivid	$ 1330.00	$ 5320.00
	Includes hanging yoke, 25° Secondary Lens and input lead with connector of choice (stage pin connector)		

Beam Control: Lenses

4	Desire D40 Round Lens (ETC SELR45)	$ 25.00	$ 100.00
4	Desire D40 Round Lens (ETC SELR75)	$ 25.00	$ 100.00
4	Desire D40 Narrow Linear Field (SELL20)	$ 22.50	$ 90.00

Data and Electrical Cables

4	DMX 5-Pin Neutrik @ 25’	$ 44.24	$ 176.96
4	DMX 5-Pin Neutrik @ 10’	$ 32.78	$ 131.02
4	PowerCON Extension Cables 12/3 @ 25’	$ 43.00	$ 172.00
4	PowerCON Extension Cables 12/3 @ 10’	$ 30.52	$ 122.08
2	PowerCON Coupler (quote from BMI Supply)	$ 21.84	$ 43.68
	Shipping and Contingency Expenses	$ 324.16	$ 374.16
	Includes unexpected price fluctuations with the equipment, shipping costs and unanticipated expenses.		

Grant Proposal Total **$ 9850.00**

The project grant amount should be sufficient to cover all costs. If there are major price fluctuations after the next three months, I can adjust the lighting equipment as necessary to fit the overall project’s intentions. This may result in the purchase of fewer lighting lens systems or shifting the final number of ETC D40s and ETC ColorSource PARs to reflect the current market prices.

In the unlikely event the final shipping costs exceed the grant funds, the theatre program will provide additional support from our academic supplies budget.

X. For Emerging Faculty Grant Applicants only

How specifically does the proposed project contribute to your long-term professional trajectory? How does it advance your professional growth and/or impact your professional identity?

During my MFA studies at Kent State, I specialized in lighting design and technology. Over the

past decade, I have had limited interaction with LED equipment due to my previous university's lighting inventory and budget restrictions. Likewise, I was isolated from major professional theatre centers while based in Appalachia. While I have experience with LED equipment throughout my professional career, continuous work with LED equipment would significantly benefit my creative work and professional skills.

Now back in Northwest Ohio, I would like to address this shortcoming. Especially since graduating University of Findlay students will encounter similar concerns if they do not receive theatrical LED lighting experience.

With the construction of the Marathon Center for the Performing Arts (MCPA) and the university's opportunities to produce musicals at MCPA, I would like to add additional design and technology opportunities with LED equipment. MCPA's lighting inventory requires significant integration between their LED lighting technology and their tungsten-halogen lighting equipment. Additionally, the university's limited time with their equipment requires pre-design programming to support our production efforts.

Furthermore, by expanding the potential lighting color palette through technology, I will be able to realize higher quality creative work for design exhibitions (both in the United States and internationally).

Finally, as an educator building a theatre design and technology emphasis having LED lighting equipment in-house makes it easier to recruit potential lighting design and technology students.

Sample 1

2019-2020 ETS Grant Proposal Review MEMORANDUM

FROM: Proposal Sponsor

SUBJECT: Review of ETS grant proposal by affected Department/Area/Center

PROPOSAL TITLE: Modernist Little Magazines Book Project

Directions: All proposals must include a completed Proposal Review Memorandum. Select one of the following.

N/A Briefly explain. This proposal is to ← Click to read full response.

OR

The affected Department/Area/Center

has reviewed proposal

and (at least one of the following must be checked)

Department/center/area has no concerns.

Issues of concern have been resolved satisfactorily. List below all areas of concern addressed and resolution.

Issues of concern have been raised but not resolved. Briefly describe below concern(s).

All relevant signatures and dates required:

Proposal Sponsor 4/25/19

Proposal Sponsors Date

Chair/Director of Affected Department/Area/Center Date

Adapted from UF Curriculum Review Memorandum

Sample 2

2019-2020 ETS Grant Proposal Review MEMORANDUM

FROM: Proposal Sponsor

SUBJECT: Review of ETS grant proposal by affected Department/Area/Center

PROPOSAL TITLE: Middle School Gaming Boot Camp

Directions: All proposals must include a completed Proposal Review Memorandum. Select one of the following.

N/A Briefly explain.

OR

The affected Department/Area/Center ITS

has reviewed proposal Middle School Gaming

and (at least one of the following must be checked)

Department/center/area has no concerns.

Issues of concern have been resolved satisfactorily. List below all areas of concern addressed and resolution.

Click to read full response.

Initial concern that software would require

Issues of concern have been raised but not resolved. Briefly describe below concern(s).

All relevant signatures and dates required:

Proposal Sponsor 4/25/19

Proposal Sponsors Date

Head of Department 4/25/19

Chair/Director of Affected Department/Area/Center Date

Adapted from UF Curriculum Review Memorandum