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Research and Technology Transfer

Grant Writing Workshop 2025
Day 3

Building a Budget at A-State

Research and Technology Transfer

research@astate.edu

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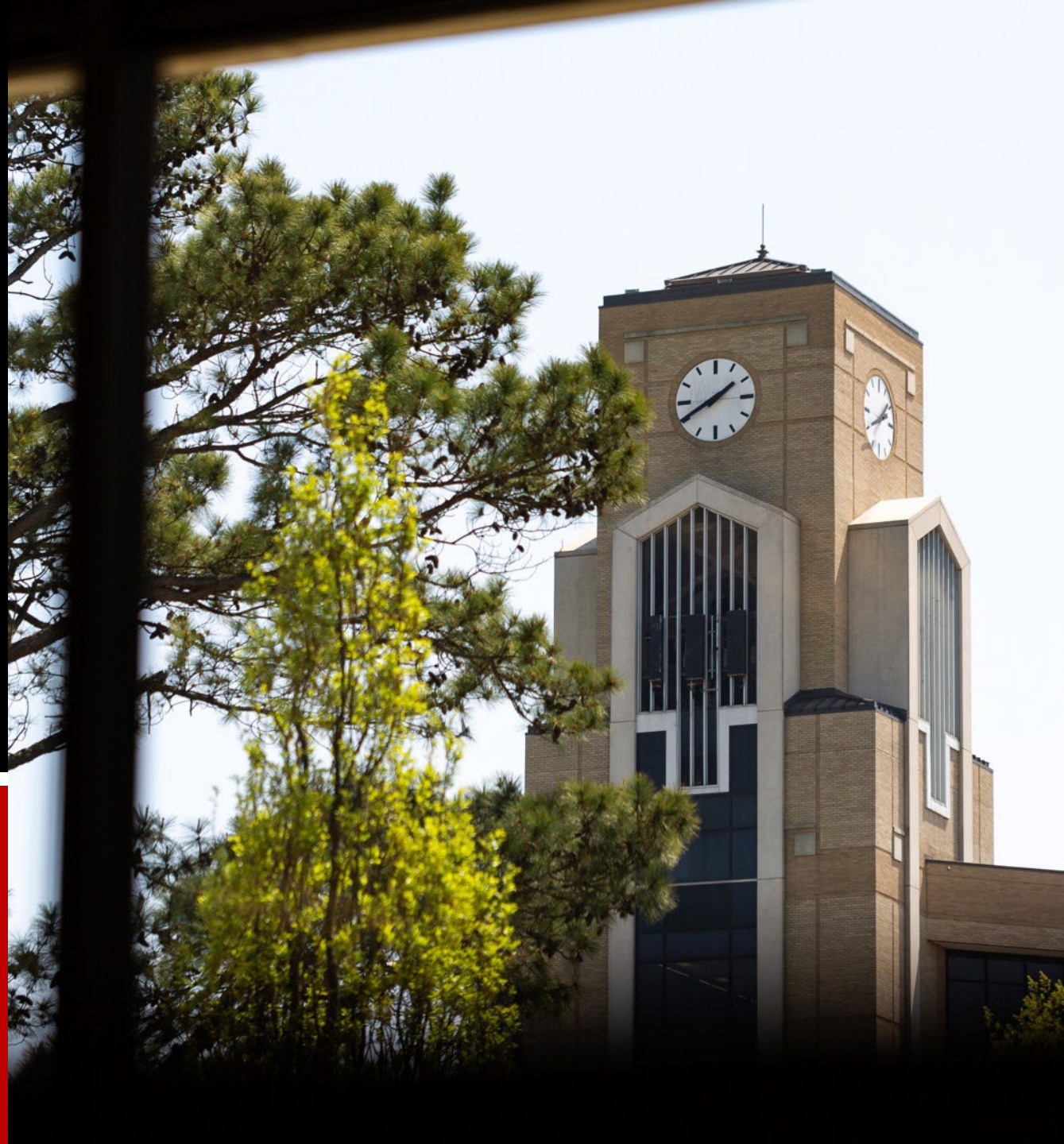

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Meet Your Presenters

Dr. Travis Marsico

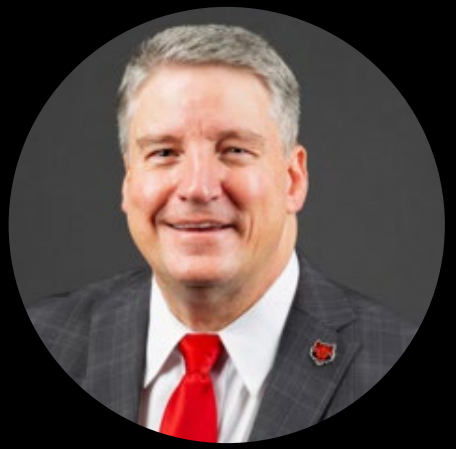
Vice Provost for Research, Innovation, and Discovery

Executive Director of the Arkansas Biosciences Institute

Professor of Botany

Molly Alexander-Steele, MPA

Executive Director for Research Development



Dr. Scott E. Gordon

Dean, College of Nursing and Health Professions

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Building a Grant Budget: Introduction

- Initial Considerations
- Potential Budgeted Costs – what costs to include in budget
- Walk through of A-State's budget template
- Where to find budget information

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Initial Budget Considerations

- The budget is the financial expression of a project's scope of work. The budget details costs by category to produce a picture of the funds needed to conduct the research project.
- Proposal budgets include: Direct Costs, Indirect Costs (F&A), (sometimes cost-share), and a written budget justification
- Read the RFP and understand your sponsor requirements: certain sponsors restrict certain cost categories and F&A, as well as impose budget caps on salary, total budget, etc.
- Justifying costs appropriately…and don't undervalue your effort or contribution!

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Direct Costs vs. Indirect Costs

- **Direct Costs:** All costs that are directly assignable to the specific funded project. They are readily identifiable and are itemized by name and amount.
- **Must Be:**
  - **Reasonable –** defined as the action a prudent person would undertake under the circumstances
  - **Allocable –** costs are incurred for the benefit of the specific project and able to be assigned to the project with a high degree of accuracy
  - **Consistent** – costs must be given consistent treatment by the University across all sponsored projects, in accordance with generally accepted accountant principles.

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Direct Costs vs. Indirect Costs

- **Indirect Costs (or IDCs or F&A):** Costs that cannot be directly assignable to a particular project but are still real costs incurred by the institution to conduct the research project. IDCs include administrative staff, IT, facilities and equipment operation and maintenance, library, PPE and personal effects, and general office/lab supplies.

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Potential Budgeted Costs

- Salary and Fringe Benefits
- Materials and Supplies
- Travel
- Equipment (threshold $5,000 and over)
- Publication costs
- Consultants
- Subawards

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Potential Budgeted Costs

- Participant Support (for participants benefitting from the study; not employees or students working on the project)
- Tuition Remission
- Human Subjects / Animal Costs
- Indirect Costs
- Cost Share (only when required)

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Special Circumstances

- **Equipment** – may need quotes, must be over $5,000 procurement threshold to count as equipment.
- **Subawards/Consultants/Contractors** – refer to RTT guide on Subaward vs. Consultant/Contractor on determining appropriate funding mechanism.
- **Participant Support** – must be preapproved in the budget by the sponsor. Typically, only used in training grants.
- **Indirect Costs** – A-State's current negotiated rate is 41.3% Modified Total Direct Costs.
- **Cost Share** – only allowable when required by the sponsor/RFP, a commitment A-State must honor if quantified in the budget.

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Subawards

If A-State will be engaging in a subaward the following is required from the outside entity/institution:

- Statement of work
- Budget and budget justification
- Subrecipient indirect cost agreement
- Subrecipient letter of intent signed by AOR
- A-State's subrecipient form signed by AOR
- Other as required by sponsor

We must give the outside entity/institution sufficient notice to ensure they meet their internal requirements for review and approval. Suggested 15 business days prior to sponsor deadline.

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Questions?

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Role Play

Instructions:

- Pair up with another participant – decide who will present first.
- Presenter explains their prepared budget.
- Reviewer listens, asks questions, and uses the checklist to give feedback.
- Switch roles and repeat the process.
- Discuss strengths and areas for improvement after both have presented

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Insights from an NIH Reviewer

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Dean and Professor

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Study Section Participation

- Skeletal Muscle and Exercise Physiology (SMEP)
- Musculoskeletal Rehabilitation Sciences (MRS)
- Musculoskeletal, Oral and Skin Sciences (MOSS) Integrated Review Group
- (AREA / REAP Awards for MOSS)

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Initial Process

- The Center for Scientific Review, a branch within NIH, oversees review of extramural funding.
- Review activities of the CSR are organized into Integrated Review Groups (IRGs). Each IRG represents a cluster of study sections around a general scientific area.
- Applications generally are assigned first to an IRG, and then to a specific study section within that IRG for evaluation of scientific merit.
- The SMEP and MRS study sections are under the Musculoskeletal, Oral, and Skin Sciences (MOSS) IRG.

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Initial Process (cont.)

- Study Sections (also called Scientific Review Groups, or SRGs) are specific to scientific discipline.
- Study Sections are not designated to one NIH Institute (SMEP and MRS get grants from NIA, NIAMS, NIDDK, etc…)
- Study Sections have a Scientific Review Officer (SRO), an administrator who oversees the distribution of grants to reviewers in a study section and oversees administrative procedures concerning the meeting.
- You can target your proposal to a specific study section. Look up section rosters to determine reviewers and areas of expertise that will look favorably upon your application.

Initial Process (cont.)

- Grants are reviewed by a study section ~2-3 months after submission.
  - This allows time for processing, distribution to appropriate study sections, etc.
  - This allows time for the SRO to fill the study section with reviewers (many members, sometimes up to ~ ½, are *ad hoc* reviewers, who are invited just for that meeting) Standing members serve 4-year terms and have 3 meetings per year.
  - This also allows time for the SRO to distribute grants to individual reviewers, adjustments for conflicts of interest, and review time (~ 6 weeks)

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Review Process

- Each reviewer is assigned a certain number of grants based upon total grants and total reviewer number (average for me has been 10/meeting).
- Reviewers are primary, second, or third; sometimes 4th and 5th reviewers are asked to mail in reviews and participate by phone during the meeting.
- Initial reviews and preliminary scores are due 1 week prior to the meeting (uploaded to the eRA Commons online site). The next week is called the "reading" phase, where you compare your reviews with co-reviewers.
- The preliminary scores include scoring of each section and on overall priority score (Impact Score)

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Review Process (cont.)

- The meetings are ~1.5 days long. They are run by the SRO administratively, but the discussion of individual grants is overseen by a chosen chair from the scientific reviewers.
- New investigator R01s are typically reviewed first, then R15/R21/R03s, etc., then established PI R01s.
- Within each group of grants above, all grants are ranked by their preliminary “priority score”. Only the best 50% get discussed (the rest are “triaged”), but any grant initially triaged can be called to the table by any reviewer for discussion.
- Each grant gets discussed for about 15-20 minutes.

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Review Process (cont.)

- Anybody with a COI leaves the room if they are in conflict with a particular grant when that grant is discussed. They also cannot see any preliminary or final scores for that grant.
- All 3 reviewers start out by stating their preliminary priority score. Then reviewer 1 summarizes a grant and his/her critique. Reviewer 2 adds any comments that #1 has not mentioned, and # 3 adds any comments not mentioned previously.
- After the 3 reviewers give their summaries, the rest of the reviewers can ask questions or add comments. *The reality is that few, if any, other reviewers have read or perused that grant until that moment*.

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Review Process (cont.)

- The open question/comment period can become a hot debate or have very little discussion. This is where it is important that at least one of the 3 reviewers is a strong advocate for your grant. It can highly influence which direction your score will change.

- After the discussion period is finished, the chair then summarizes the comments given by the 3 reviewers and others. The 3 reviewers then give their final scores, which could stay the same or change by 2-3 points from their initial scores based upon the discussion.

- There is usually a range of these 3 scores (say, 2,4,3), and then the rest of the study section chooses a score within that range and submits their score.

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Review Process (cont.)

- Sometimes there is no range (say, 2,2,2), and thus all section members must vote a 2. However…
- …Any study section member can vote “outside the range” if they desire, but they must declare it. This happens about 10-20% of the time.
- In the end, all study section member scores are weighted equally, so the 3 initial reviewers cannot weight the scoring with their own score. However, the scores and reviews of primary reviewers highly influence the rest of the study section (see “advocate” above).

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Review Process (cont.)

- Final impact (priority) scores will usually end up the same/worse than the initial scores, and sometimes even be worse than the initial scores of grants that were initially triaged.
- To account for section bias, the final priority scores are percentiled to the study section average “base” of scores over the last several cycles.
- There are also higher-level determinants of funding, such as IRG or Institute-level funding priorities (i.e., different areas).
- Before starting to write a grant, it is important to call/email the Program Officer (PO) to determine suitability and fundability of the idea and get suggestions. The PO is typically listed in the Funding Opportunity Announcement (FOA).

Grant Scoring/Categories

- Overall Impact Score
- Significance
- Investigators
- Innovation
- Approach
- Environment
- Additional Review Criteria affecting your score - important for statistics (power), design, feasibility
  - Study Timeline (Specific to clinical trials)
  - Protections for Human Subjects

Grant Scoring/Categories (cont.)

- Additional Review Criteria affecting your score (cont.)
  - Inclusion Plans (Sex/Gender, Race/Ethnicity, Age/Children
  - Vertebrate Animals
  - Biohazards
  - Resubmission (rarely used – can address the PI's response to previous reviews, but this is usually addressed in the critiques to other primary review criteria)
  - Renewal (again, rarely used, and addressed in reviewable critiques) – takes into account the progress made in last funding period.
  - Revision (applies to resubmission)

Grant Scoring/Categories (cont.)

- **Overall impact (1-9)**—will it be a publishable, disseminated and important contribution?
- **Criterion scores (1-9):**
  - ***Significance***
    - How important is the science that is proposed?
    - How strong is the empirical foundation?
  - ***Investigator***
    - How well suited are the PI and research team to the project?
    - Consider training and accomplish. in context of career stage.
  - ***Innovation***
    Concepts, methods, populations, design.
    Generally desirable, not always required.
  - ***Approach***
    - How strong are the design and methods?
    - Evaluate the rigor and reproducibility of the approach.
  - ***Environment***
    - Will the scientific environment in which the work will be done contribute to the probability of success?

Overall Impact

Score/words are informed from assessment of:

Five Scored Review Criteria	Additional Review Criteria
Significance	Human Subjects/Inclusion
Investigator(s)	Vertebrate Animals
Innovation	Biohazards (Research Strategy)
Approach	Resubmission (Introduction, Other Indicators)
Environment (Facilities & other Resources)	Renewal (Research Strategy, Progress Report)
Individually scored & influence Overall Impact score	**Not individually scored but may influence the Overall Impact score.**

Overall Impact score is NOT an average of the criterion scores

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Grant Scoring/Categories (cont.)

- Overall Impact – the score associated with this is the main priority score. This is a combined score from all of the other “scored review criteria” subsections, but not an average of the subsection scores. It can be any level the reviewer wants depending upon his/her overall impression.
- The reality is that not all scored review criteria are weighted equally when generating an overall impact (priority) score (see next slide).
- Scoring compression is a problem for many reasons

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Grant Scoring/Categories (cont.)

- “Significance” does not seem to affect the overall impact score much because there is little variability in this category - most PIs can, and should, easily justify significance. Also, most reviewers in your area are inherently biased to believe that the area is highly significant anyway.
- “Investigators” or “Environment” to ensure project success can greatly affect your score, so make sure you fill any and all gaps in these categories.
- “Approach” is by far the most highly correlated with overall impact score – vital!
- “Innovation” is difficult to judge, as few grants are truly innovative. Thus, it rarely hurts your score; however, it can greatly help if it is a truly innovative concept or approach.

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Grant Scoring/Categories (cont.)

- Additional Review Criteria <u>not affecting your score (discussed after final scores are submitted)</u>
  - Applications from Foreign Organizations
  - Select Agents
  - Resource Sharing Plans (model organisms, databases, etc.)
  - Authentication of Key Biological and/or Chemical Resources
  - Budget and Period of Support – too large or small? Overlap with other grants?

Numerical Scoring (theoretically)

Overall Impact:
The likelihood for a project to exert a sustained, powerful influence on research field(s) involved

Overall Impact	High	Medium	Low
Score	1 2 3	4 5 6	7 8 9

Evaluating Overall Impact:
Consider the 5 criteria: significance, investigator, innovation, approach, environment (weighted based on reviewer's judgment) and other score influences, e.g. human subjects, animal welfare, inclusion plans, and biohazards

e.g. Applications are addressing a problem of high importance/interest in the field. May have some or no weaknesses.

e.g. Applications may be addressing a problem of high importance in the field, but weaknesses in the criteria bring down the overall impact to medium.

e.g. Applications may be addressing a problem of moderate importance in the field, with some or no weaknesses

e.g. Applications may be addressing a problem of moderate/high importance in the field, but weaknesses in the criteria bring down the overall impact to low.

e.g. Applications may be addressing a problem of low or no importance in the field, with some or no weaknesses.

5 is a good medium-impact application, and the entire scale (1-9) should always be considered.

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Budget Jeopardy

Grant Jeopardy: The Budget Battle Jeopardy Template

Password: ASU72401

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Resources for PIs

- RTT Investigators Toolbox: https://www.astate.edu/a/ortt/investigators-toolbox.dot
- Institutional Profile: https://www.astate.edu/a/ortt/Institutional-Profile/
- 2 CFR 200 Uniform Guidance, Subpart E Cost Principles: https://www.ecfr.gov/current/title-2/subtitle-A/chapter-II/part-200/subpart-E

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Contact Research and Technology Transfer

- Email: research@astate.edu
- Phone: 870-972-2694
- Location: 6th Floor, Dean B. Ellis Library, Suite 613
- Website: www.astate.edu/info/research

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