Preparing a Competitive NSF Proposal

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NHERI Lehigh EF

Outline

- Funding Opportunities
- Components of a Competitive NSF Proposal
- NHERI Lehigh EF Resources
- NSF Resources

Opportunities for Utilization of NHERI Facilities

- NHERI Lehigh EF is available for utilization for projects funded through both public and private sources
  - NSF-funded projects that utilize NHERI Lehigh EF have specific costs that qualify for funding through one of the following sources:
    - NHERI Lehigh Operations and Maintenance budget
    - NSF-funded research project
  - Projects funded by all non-NSF sources are responsible for all costs associated with project budget

Opportunities for Utilization of NHERI Facilities

- Upcoming funding opportunities through NSF:
  - Engineering for Civil Infrastructure (ECI) – Solicitation NSF 19-073Y
    - Full Proposal Window: proposals can be submitted at any time.
    - ECI program represents a new and integrated vision for fundamental research to underpin transformative innovations for the built environment that are resilient, economical, and adaptable to enhance national prosperity and societal benefits.
    - ECI program also does not support research on:
      - hazard characterization for and hazard mitigation of the impact of explosions, fire, blast loading, flooding,
      - solar wind and storms on civil infrastructure;
      - sensor and measurement technologies;
      - field instrumentation and monitoring;
      - induced seismicity;
      - construction safety.
    - $1M good upper bound budget.

Opportunities for Utilization of NHERI Lehigh

- Upcoming funding opportunities through NSF:
  - Leading Engineering for America's Prosperity, Health, and Infrastructure (LEAP HI) – Solicitation NSF 17-602
    - Letter of Intent: Due July 15, 2019
    - Full Proposal Window: September 1, 2019 – September 16, 2019
    - LEAP HI proposals confront engineering problems that are too complex to yield to the efforts of a single investigator — problems that require sustained and coordinated effort from interdisciplinary research teams, with goals that are not achievable through a series of smaller, short-term projects (i.e., significant interdisciplinary research effort).
    - LEAP HI supports fundamental research projects involving collaborating investigators, of duration up to five years, with total budget between $1 million and $2 million.

Components of a Competitive NSF Proposal

1. Project Summary
   - Overview – Related to proposed research; should present clearly and concisely: existing knowledge gaps; impact of these knowledge gaps on society; proposed research plan to close knowledge gaps.
   - Intellectual Merit – Knowledge that will be advanced; technical milestones to be achieved.
   - Broader Impacts – Outcomes; how research will transform the field; data products and computational models/tools developed; training of diverse group of graduate students and any ECO activities.

Components of a Competitive NSF Proposal

2. Research Vision
   - Problem statement – existing knowledge gaps; impact of these knowledge gaps on society;
   - Research needs, opportunities and impact
   - Goals and outcomes of proposed research
   - Overview of the major activities of proposed research
   - Rationale for NHERI EF usage
   - Overview of scope of research
   - Summary of research technical objectives
3. Project Team
4. Results from Prior NSF Support
5. Background
   - Background related to main technical aspects of proposed research
   - Relationship to current practice, codes
   - Prior relevant research

Components of a Competitive NSF Proposal

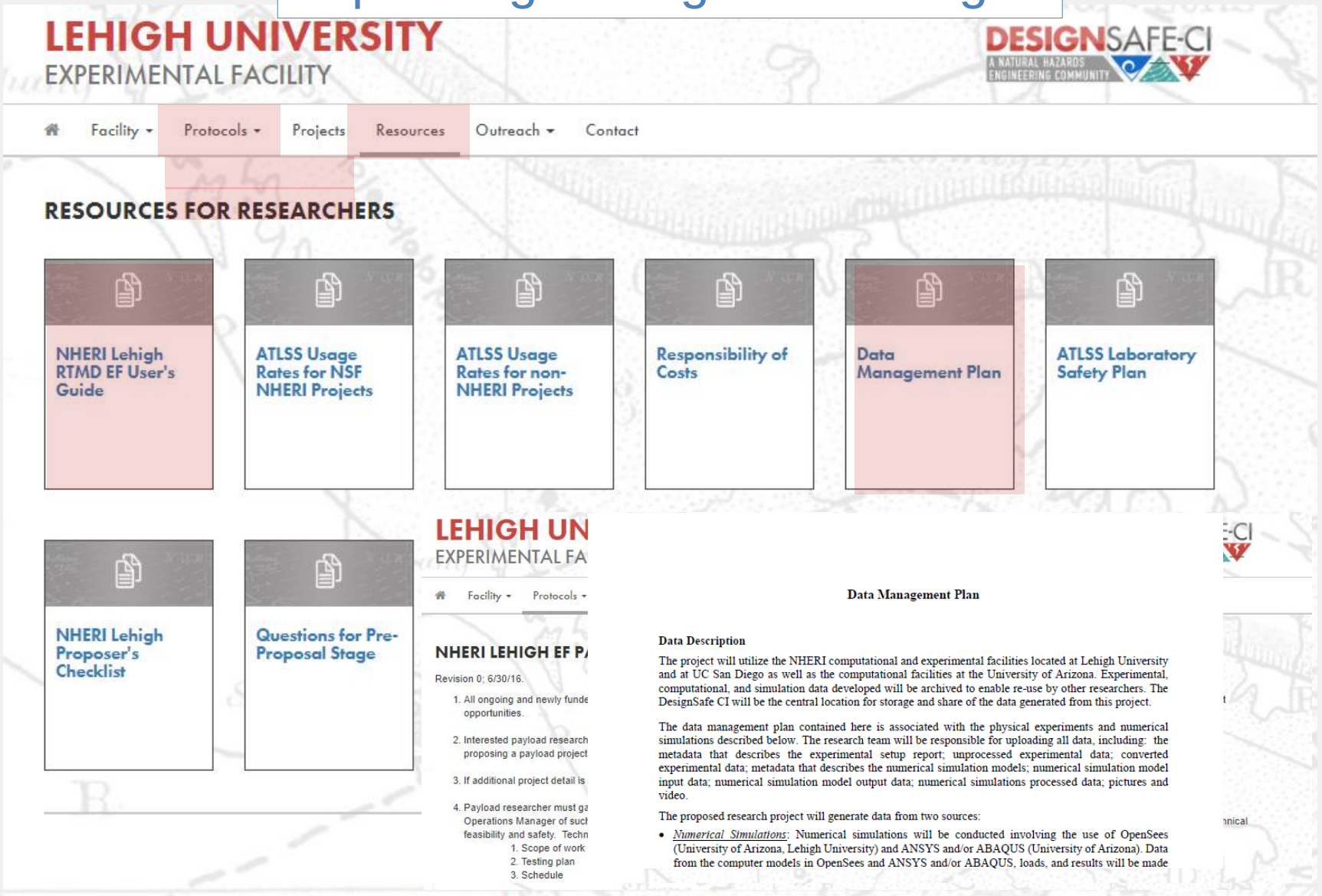
6. Primary Research Activities
   - Detailed discussion of research activities
   - Use of tables and figures
7. Research Schedule
8. Broader Impacts
9. References
10. Facilities, Equipment and Other Resources.
    - Experimental Protocol document (Lehigh EF website)
    - Payload Project Protocol (Lehigh EF website)
    - Lehigh EF Users Guide (Lehigh EF website)

Components of a Competitive NSF Proposal

11. Data Management Plan
    - Data Description; Formats; Data Policies, Archiving and Preservation (Lehigh EF website)

NHERI Lehigh EF Resources

http://lehigh.designsafe-ci.org



NSF Resources

- NSF Grants.gov Application Guide
  http://www.nsf.gov/publications/pub_summ.jsp?ods_key=grantsgovguide
- Program Guidelines (e.g., NSF 19-073Y)
- Program Director – strongly encourage you to talk to the NSF program director
  - Whether particular NSF program is a good fit for your proposed research
  - Any budget questions (limits)

Thank you