Undergraduate Research and Innovation (URI)

Phase-1 and Phase-2 URI Student Seed Grants

Information Session
Undergraduate Research and Innovation (URI)

Opportunities for students to learn necessary and important skills to research and innovate to take a leadership role in the society.

Help students develop strategic skills and vision to address research, technology and societal challenges.

Higher Accomplishments
Better Skill-set
Better Graduate/Professional School
Better Future and Job
Better Life
URI Programs

- URI Student Seed Grants
  - Phase 1: Proof of Concept and Feasibility: Up to $500
  - Phase-2: Prototyping and Research: Up to $3,000
- TechQuest Innovation Competition
  - Up to $15,000 in Awards and Summer Stipends
- NIAC Innovation Challenge
  - Summer Stipends
- McNair Achievement Program
  - Scholarship Awards
- Provost Summer Research Fellowships
  - Summer Stipends
- NSF REU Programs
  - Summer Stipends
- NSF iCorps Grants
  - $3,000 Grants
URI Administration

- **Atam Dhawan**, Vice provost for Research
- **Angela Retino**, URI Administrative Coordinator

URI External Advisory Board Executive Committee

- **Brian Kiernan** (Chair, EAB and Executive Committee)
  Angel Investor, Executive VP and Chief Scientist (ret), InterDigital Comm. Corp.
- **Govi Rao** (Co-Chair, EAB and Executive Committee)
  President and CEO, Noveda Technologies
- **Leon K. Baptiste** (Executive Committee member)
  Principal and CEO, LB Electric Co., LLC.
- **Nish Parikh** (Executive Committee member)
  - Founder and CEO, WebTeam Corporation
- **Manish Patel** (Executive Committee member)
  Co-Founder, TrickyWater, LLC
10th International Undergraduate Summer Research Symposium

- Over 125 Students
- Over 250 Visitors
URI Student Seed Grants

- Two Tracks for Submissions of Proposals:
  - Track 1: Innovation and Product Development (IPD) - projects focused on innovative ideas for technology/product development to address market and societal needs
  - Track 2: Application Based Research (ABR) – application based research to address market and societal needs
- Phase-1 grants provide up to $500 for demonstration of feasibility of concept and need through market research (IPD) or complete literature review (ABR).
- Phase-2 grants provide up to $3,000 per project to pursue research or develop proof of concept prototypes.
  - Funds can only be used to order project supplies and prototyping
  - Open to former Student Seed Grant winners who have completed Phase-1 work
  - Open to new students who have a research or product idea that has shown preliminary proof of concept, market assessment or application based research to establish need
URI Call For Proposals

• All proposals should be submitted by **October 6, 2017** following the URI Phase-1 or Phase-2 Student Project Grant Proposal Format Guidelines posted on the URI website [http://centers.njit.edu/uri/programs/index.php](http://centers.njit.edu/uri/programs/index.php).

• Students working with a faculty member may submit URI Student Seed Grant proposals in the required format to Ms. Angela Retino at [aretino@njit.edu](mailto:aretino@njit.edu).

• All proposals will be reviewed to select up to 15 finalist proposals for presentation to the External Advisory Board in the URI Workshop to be held on October 17, 2017 at the Campus Center Ballroom A from 2.00 PM to 5.00 PM.
Proud Sponsors

National Science Foundation
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James Stevenson Family Foundation
Brian Kiernan Family Foundation
Peggy McHale
NJIT Office of Research
## Proposal Writing

### Process Steps

<table>
<thead>
<tr>
<th>General Outline</th>
<th>Track-1 Technology/Product Development</th>
<th>Track-2: Application-Based Research</th>
</tr>
</thead>
<tbody>
<tr>
<td>The core idea and innovation can be correlated with the potential user group:</td>
<td>Need: What is the need? Why users need it?</td>
<td>The core idea and research can be correlated with the potential knowledge advancement and discovery towards addressing needs for an application.</td>
</tr>
<tr>
<td>Need: What is the need? Why users need it?</td>
<td>Significance: Will the innovation really help them and address a critical need? How many would use it?</td>
<td>Need: What is the problem in research that is not well understood? Does it correlate to an application?</td>
</tr>
<tr>
<td>Potential Impact: If the innovation is successful, what is potential impact in the society or addressing unmet market needs?</td>
<td>Significance: Will the research in the area solving complex problems towards the application? Are potential applications important?</td>
<td></td>
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<tr>
<td></td>
<td>Potential Impact: If the research is successful, will it open pathways to innovation or further research in addressing specific application problems?</td>
<td></td>
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# Proposal Writing

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<tbody>
<tr>
<td>Preliminary Research</td>
<td>Web and published data research and analysis to establish, need, significance and potential impact.</td>
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</tr>
<tr>
<td></td>
<td>Find general data and statistics about unmet needs, their importance and the volume of potential users.</td>
<td>Find general need and significance about research problem from published research journal and conference papers and web publications.</td>
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<td></td>
<td>Investigator why the research is important in improving knowledge-base for future research and applications.</td>
<td>Summarize market survey responses to establish a knowledge-base for your innovation and preliminary specification of the potential product.</td>
</tr>
<tr>
<td>Market Survey or Literature Review</td>
<td>Identify user group within your reach.</td>
<td>Complete study of published papers with respect to approaches, methodologies and results to establish the and understanding of current state-of-the-art knowledge base.</td>
</tr>
<tr>
<td></td>
<td>Develop an effect market survey questionnaire.</td>
<td>Summarize the research findings and how they can build a foundation to your future research.</td>
</tr>
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<td></td>
<td>Reach out to user group through effective communication channels or personal distributions to obtain their response.</td>
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**NJIT**
New Jersey Institute of Technology
## Proposal Writing...

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</table>
| Interact with the Real World Experts | Meet with experts in the market or leaders in the user groups to discuss your product idea, innovation and preliminary specifications.  
Summarize their feedback to guide future developments.  
Obtain any endorsement or comments on enthusiasm for the project if possible. | Meet with leading researchers in the field and your advisor to discuss your research idea and approach.  
Summarize their feedback to guide future developments.  
Obtain any endorsement or comments on enthusiasm for the research project if possible. |
Phase-1 Proposal

• **A. Problem Statement** (What problem are you trying to address through research or product development?)
• **B. Significance** (Why is the problem important? What is the value proposition to users or society?)
• **C. Approach** (How will you solve the problem? What is your overall approach? Briefly present methods or procedures critical to your approach.)
• **D. Innovation** (What is the innovation or novelty in your approach?)
• **E. Expected Outcomes and Deliverables** (What do you expect as the outcome of research or deliverables towards product development?)
• **F. Users/Market and Potential Impact** (What impact do you expect if the proposed work is successful?)
• **G. Resources and Budget Needed** (Provide a budget and justification for supplies to pursue research or develop a prototype for proof of concept. Budget is limited to $500)
Phase-2 Proposal

- **A. Problem Statement** (What problem are you trying to address through research or product development?)
- **B. Significance** (Why is the problem important? What is the value proposition to users or society?)
- **C. Innovation** (What is the innovation or novelty in your approach?)
- **D. Phase-1 or Preliminary Research Goals** (List each specific goals of earlier work)
- **E. Phase-1 Research Literature Review or Market Research**
- **F. Phase-1 Report, Accomplishments and Lessons Learned**
- **G. Phase-2 Special Goals**
- **H. Phase-2 Research/Innovation Plan and Methods** (Briefly present methods or procedures critical to your approach.)
- **I. Expected Outcomes and Deliverables** (What do you expect as the outcome of research or deliverables towards product development?)
- **J. Resources and Budget Needed** (Provide a budget and justification for supplies to pursue Phase-2 research or develop a prototype. Budget is limited to $3,000)
(Template for Phase-2 Proposal Presentation)

Title of the Project

Names of Students

Advisor Name
Title of project

• Problem Statement:
  – What problem are you trying to address through research or product development?

• Significance:
  – Why is the problem important? What is the value proposition to users or society?

• Innovation:
  – What is the innovation or novelty in your approach?
Phase 1 Report

• Goals
  – List specific goals of Phase 1 proposal and work

• Research Literature Review or Market Research for Potential Impact
  – Discuss results of survey with potential users, or market research

• Accomplishments and Lessons Learned
  – Discuss accomplishments/failures and lessons learned
Phase 2 Plan

• Specific Goals
  – Describe how Phase 1 experience & lessons learned have changed your Phase 2 goals for further research or development

• Revised Research Plan and Methods
  – Describe the work, research plan and revised specifications of next level prototype
  – Methods and procedures

• Expected Outcomes and Deliverables
  – Deliverables with timeline
Phase 2 Resources and Budget Needed

• Provide a budget and justification for supplies for Phase 2 research and prototype. (limited to $3,000)