NSF Webinar on NSF Solicitation 15-518

NSF/Intel Partnership on Visual and Experiential Computing (VEC)

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Outline

- Joint NSF-Intel Partnership
- Visual and Experiential Computing
- Program Details
  - Small VEC Projects
  - Medium VEC Projects
  - Large VEC Projects
- Frequently Asked Questions
- Program Director Contacts

NSF-Intel Partnership on Visual and Experiential Computing (VEC)

- Jointly funded partnership between National Science Foundation (NSF) and Intel Corporation
- Supporting fundamental research in VEC areas such as Computational Photography, Simultaneous Localization and Mapping, Augmented Reality, Image and Video Understanding, 3D Scene Understanding
- Encouraging the application of promising algorithmic approaches and design methodologies
- Partnership with Intel provides researchers greater insight and access to industry needs/capabilities/resources; facilitates transition to practice; and provides students opportunities to engage with industry

Visual and Experiential Computing

- Visual computing – acquisition, analysis, and synthesis of visual information through the use of computational resources and tools
- Experiential computing – use of computing architectures and applications to enable and/or enhance compelling human experiences
- Visual and experiential computing – translate the information contained in complex visual and non-visual data sets into intuitive modes of human perception and interaction and create accessible platforms for information capture, retrieval, analysis and knowledge discovery

VEC Program Goals & Objectives

- **Goal:** Foster novel, transformative, multidisciplinary approaches that promote research in VEC technologies, taking into consideration the various challenges present in this field.
- **Objectives:**
  - Understand the range of technical issues affecting hardware and software in components, and their integration in sociotechnical systems
  - Develop systems that allow us to effortlessly engage with visual representations that blur the boundaries between the real and virtual world.

Examples of Visual and Experiential Computing

- Real-time recognition of events and activities
  - improving our understanding of the world around us and simplifying the complexities of our interactions
- Immersive reconstructions of events and/or locations
  - provide revealing insight and mimic the ability of the human visual system to perceive the world.
- Trusted autonomous navigation of large-scale environments
- Expanded vision
  - Being able to "see" over a hill or around a corner while driving or walking
- And more …….

Sample Topics of Interest

- Computational Photography
  - New sensors, devices, and algorithms
- Simultaneous Localization and Mapping
  - Indoor and outdoor autonomous navigation under any lighting conditions
- Augmented Reality
  - Photo-realistic virtual content insertion into real scenes and the application
- Image and Video Understanding
- 3D Scene Understanding
  - New RGBD sensors and devices

The VEC program is not limited to these sample topics of interest.

Solicitation Details

- Three types of proposals
  - Small VEC Projects
  - Medium VEC Projects
  - Large VEC Projects

- Eligibility: US Universities and Colleges
- Anticipated Funding Amount: $6,000,000

Proposal Submission Details

Proposal Type	SMALL VEC	MEDIUM VEC	LARGE VEC
Conditions	<= $1M & up to 3 years	> $1M and < =$2M & up to 3 years	> $2M and <= $3M & up to 3 years
Proposal Limits	One (1) proposal per lead PI to each class, and Two (2) Proposals per investigator across all classes		
Title Format	Begins with **"VEC: SMALL:"**	Begins with **"VEC: Medium:"**	Begins with **"VEC:LARGE:"**
Deadline	February 20, 2015 5:00PM Proposers' Local Time		

No classified proposals will be accepted

VEC Proposal Review Process

- Administered by NSF, in accordance with NSF standards and procedures
- NSF and Intel program directors coordinate on review panels and award recommendations for proposals
- Intel will conduct a separate review

Projects selected for joint funding by NSF and Intel will be funded through *separate* NSF and Intel funding instruments

VEC Solicitation Specific Review Criteria

- The degree to which the project's technical research is likely to inform the realization of compelling human experiences enabled by Visual and Experiential Computing technologies.
- The degree to which the project's plans both pursue the development of a systems perspective and implement demonstrations of interrelated component research ideas. These demonstrations, along with the research outcomes, should serve as a call to action by the Visual and Experiential Computing innovation ecosystem, specifically but not limited to Intel.

Award Details

- Each awarded project will be jointly funded by the NSF and Intel through separate NSF and Intel funding instruments.
- NSF and Intel will manage their respective award according to their own procedures and guidelines
- All awards involving Intel funds will be made under a contract that requires:
  1. All source code that has been authored while working on such an award will be distributed under a BSD, Apache or other equivalent open-source license. GNU's GPL or LGPL, the Artistic License, or the Mozilla Public License are not considered equivalent. See solicitation for details.

Award Details

- All awards involving Intel funds will be made under a contract that requires:
  2. No incorporation of any third-party code or background intellectual property, except by separate pre-arrangement with NSF and Intel, into data or software generated while performing the work under the award, if said incorporation would limit or restrict the ability to distribute the data or code under an open source license.
  3. Awardees may file patent applications, providing that they grant to Intel a non-exclusive, worldwide, royalty-free, sub-licensable license to all intellectual property rights in any inventions or works of authorship resulting from research conducted under the joint award.

Intel Participation in Research

- Intel may separately fund its own personnel to directly participate in awardee institutions
  - Under mutual consent by Intel and awardee institution
  - Goal: identify opportunities for technology transfer, act as advisors or collaborating researchers
- Intel may also designate (by mutual agreement) a senior researcher as a member of the Project Management Team

Post Award Management

- Awardees must submit annual reports to the appropriate funder(s)
- Intel will conduct annual retreats and may require deliverable reports to monitor project progress
- Annual on-site reviews may be conducted jointly by NSF and Intel
- Intel may lead the organization of phone calls with project teams; NSF may participate

Takeaways

- The VEC program is an exciting new opportunity for NSF funded researchers to work closely with industry and to explore an increasingly important research domain. VEC researchers will help to translate the information contained in complex visual and non-visual data sets into intuitive modes of human perception and interaction, and create accessible platforms for information capture, retrieval, analysis, and knowledge discovery.
- Proposals due February 20, 2015 to NSF
- Contact an NSF and/or Intel program officer with questions!

For further questions

If you have additional questions after the webinar concludes, please send them via email to

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with the subject line starting with "VEC:"

The presentation will be available following the WEBINAR at

http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=505085

The VEC solicitation is available at

http://www.nsf.gov/pubs/2015/nsf15518/nsf15518.htm

Frequently Asked Questions

Frequently Asked Questions

Proposal Submission Related

Q: Can I submit the same proposal to the VEC, and other NSF programs?

A: No, you must choose one program.

Q: Does a submission to the VEC program count towards the 2 proposal limit for other CISE core or crosscutting programs?

A: No, they are separately counted. For example, you can submit 2 proposals to CISE core programs and 2 to VEC.

Q: Can a company be able to subcontract with an eligible University submitting a proposal to VEC?

A: No, no industrial company is allowed to be sub-awardees.

Frequently Asked Questions

Scope Related

Q: How do I decide whether to submit to VEC or other CISE programs, e.g., core programs?

A: If you are interested in the benefits that go along with Intel funding then please submit to VEC. Talk to a VEC or Intel program director if you are unsure.

Q: Does the new VEC program mean that core programs will be reducing funding for VEC research?

A: No. VEC is still a priority for many CISE core programs .

Frequently Asked Questions
Award Related

Q: How many awards will be made in each category?

A: The total anticipated budget amount for the VEC program is $6M. The number of awards in each category will depend on the quality of proposals in the category. No money has been pre-allocated to each category.

Q. What is the detail of the jointly funding mechanism? Will NSF and Intel always split half/half the fund?

A: The intent is for NSF and Intel to make awards to the same projects. If NSF and Intel agree to support the same projects, NSF and Intel will split half and half.

Frequently Asked Questions

Award Related

Q: What happens if the review results from NSF and Intel do not align very well? Can NSF choose to fund the project alone?

A: In all cases the final decision rests solely with the awarding organization. Proposals that are not successful in the collaborative panel review process may still be funded by either organization, at their discretion, with funds provided outside the scope of the VEC program.

Q: Is there a difference contractually between an NSF award and an Intel award?

A: The NSF funding agreement is a "grant"; the Intel funding agreement is a "contract". Deliverables vary.

Frequently Asked Questions

Award Related

Q: If co-funded, is the same proposal used for both NSF and Intel?

A: Yes. There is a single technical description or Statement of Work for each project, but two funding agreements. Awardees will be provided guidance on how to split the budget.

Q: Will Intel fund participants at non-US institutions (which are not funded by NSF)?

A: No. All funded participants must follow standard NSF eligibility requirements.

Frequently Asked Questions

Financial Related

Q: Is this new money (in addition to CISE core programs)?

A: VEC is an independent competition. We are pleased to combine NSF funds with Intel funds.

Q: Is VEC a multi-year program?

A: No. Currently both NSF and Intel have only committed the funds for FY15 competition. However, following this year's competition, we might assess whether to continue the solicitations on the basis of the number/quality proposals received, availability of funds, continuing interest in these topics, etc.

Frequently Asked Questions

Intellectual Property Related

Q: Are there any restrictions on intellectual property as a result of Intel involvement?

A: For Intel co-funded awards: Under the standard Intel contract, the University retains ownership and Intel receives a non-exclusive royalty free license to any IP developed.

Q: Can we get access to Intel technology?

A: Potentially. This would be handled on a case by case basis between Intel and the awardee university.

Frequently Asked Questions

Additional PI Requirements

Q: Do I have to attend the Intel annual retreats?

A: yes, if your project has received Intel funds.

Q: Do I have to submit reports to both Intel and NSF on a VEC award?

A: Yes, NSF and Intel joint funded awards need to submit reports to both. The contents of the two are similar.

Frequently Asked Questions

Post Award Related

Q: Will Intel be actively involved as collaborators and working on spin-off projects, or provide in-kind support?

A: Intel may fund its own personnel to directly participate in research done through awards, via its Researchers in Residence program. This will require mutual consent between Intel and the awardee. Intel may designate (and self-fund) one of its senior researchers to work alongside the VEC project PI(s), as a member of the project management team, providing perspective on commercial aspects, help with day-to-day leadership of the project, and coordinate engagement of all other Intel researchers.

Q u e s t i o n s ?

The telephone line is now open