OppNet Request for Applications: Basic Behavioral Research on Multisensory Processing (R21)

September 04, 2012

OppNet, NIH's Basic Behavioral and Social Science Opportunity Network, announces the first of its two FY2013 RFAs:

Basic behavioral research on multisensory processing (R21): http://grants.nih.gov/grants/guide/rfa-files/RFA-EY-13-001.html

Application due date:

October 31, 2012, by 5:00 PM local time of applicant organization.

Purpose:

This RFA encourages research grant applications investigating multisensory processing in perception or other behavioral and social outcomes. The FOA is intended to support basic behavioral research projects focused on two or more sensory modalities. This includes research examining ways in which cognitive or affective processes interact with multisensory input to influence basic behavioral targets. While evidence suggests that sensory input is processed interactively instead of additively, research is less developed regarding how different modalities are integrated for perception and behavioral or social outcomes. OppNet intends to fund an estimate of 6 awards, corresponding to a total of approximately $1.5 million in fiscal year 2013. Future year amounts will depend on annual appropriations.

Background:

Individuals negotiate environments saturated with multisensory input, including visual, auditory, olfactory, gustatory, somatosensory (cutaneous and subcutaneous tactile sense, thermosensation, propriosensation, nociosensation), and vestibular information. Sensory systems gather this information, which the brain integrates and interprets as perceptions of the events and objects in the world. Evidence suggests that, rather than providing independent sensory information that is processed additively, different sensory modalities interact with and influence one another in determining perception. That is, judgments concerning one modality can be enhanced, attenuated, or completely changed when sensory input from another modality is present, even if one modality cannot itself fully convey the properties being perceived (e.g., touch can improve judgments of visual colors even though touch itself cannot convey color). Further, multisensory processing can influence subsequent unimodal sensory processing (e.g., exposure to simultaneous auditory and visual stimuli can recalibrate the way that each of these stimuli is processed in the future, even in isolation).

Despite growing interest in how individuals integrate these ubiquitous signals, relatively little is known about the mechanisms through which multisensory processes interact with one another to influence behavior, or the role of cognitive expectations in shaping multisensory influence on behavior. OppNet seeks to expand understanding of how multisensory input contributes to perceptual representations and behaviors appropriate to that representation. Moreover, OppNet seeks to further the exploration of how cognitive expectations, memories, and affective states contribute to or modify perceptual and behavioral outcomes that result from multisensory input. This FOA seeks to support basic behavioral multisensory science research that

1. Integrates multisensory influences on perception and/or other behavioral measures;
2. Identifies key features shared among different sensory modalities; and,
3. Examines individual differences in and moderators of multisensory sensitivity.

About OppNet

OppNet is a trans-NIH initiative that funds activities to build the collective body of knowledge about the nature of behavior and social systems, and that deepen our understanding of basic mechanisms of behavioral and social processes. OppNet uses the NIH definition of basic behavioral and social science research (b-BSSR) (http://obssr.od.nih.gov/about_obssr/BSSR_CC/BSSR_definition/definition.aspx) to determine application responsiveness. Consequently, OppNet strongly encourages prospective investigators to consult this definition, OppNet's answers to frequently asked questions about b-BSSR (http://oppnet.nih.gov/about-faqs.asp), OppNet's Coordinating Committee members, and the Scientific Contacts section of this FOA for individuals with expertise in the research subject matter and the OppNet initiative.

Applicants should understand that the National Eye Institute (NEI), which made this FOA available to the public, is not necessarily the NIH IC that ultimately will manage a funded OppNet project. Instead, OppNet assigns funding and project management of meritorious applications to one of 24 NIH ICs whose scientific mission most closely corresponds to that of the proposed research project. For more information about OppNet, its NIH members, its grant portfolio, and all its current funding opportunities, visit http://oppnet.nih.gov.

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