

SUMMARY STATEMENT

PROGRAM CONTACT:
LISBETH NIELSEN
301-402-4156
nielsenli@nia.nih.gov

(Privileged Communication)

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Application Number: 1 R25 AG053213-01

Principal Investigator

SAMANEZ LARKIN, GREGORY R

Applicant Organization: **YALE UNIVERSITY**

Review Group: ZAG1 ZIJ-4 (M1)
National Institute on Aging Special Emphasis Panel
Aging Education Development Projects

Meeting Date: 02/05/2016 *RFA/PA:* AG16-010
Council: MAY 2016 *PCC:* 2BPDILN
Requested Start: 07/01/2016

Project Title: Short Courses in Neuroeconomics and Social Neuroscience

SRG Action: Impact Score:19
Next Steps: Visit http://grants.nih.gov/grants/next_steps.htm
Human Subjects: 10-No human subjects involved
Animal Subjects: 10-No live vertebrate animals involved for competing appl.
Clinical Research - not NIH-defined Phase III Trial

Project Year	Direct Costs Requested	Estimated Total Cost
1	123,046	132,890
2	121,937	131,692
3	122,756	132,576
4	122,790	132,613
5	122,776	132,598
TOTAL	613,305	662,369

ADMINISTRATIVE BUDGET NOTE: The budget shown is the requested budget and has not been adjusted to reflect any recommendations made by reviewers. If an award is planned, the costs will be calculated by Institute grants management staff based on the recommendations outlined below in the COMMITTEE BUDGET RECOMMENDATIONS section.

RESUME AND SUMMARY OF DISCUSSION: This application for Advancing Diversity in Aging Research (ADAR) through Undergraduate Education (R25) is submitted by Yale University on behalf of the Principal Investigator (PI), Dr. Gregory Samanez-Larkin, and requests five years of support. This application proposes a series of workshops and short summer courses to provide broadly accessible, unique training opportunities in neuroeconomics and social neurosciences of aging with a focus on decision making and decision behavior which promote health and well-being in old age. This is a strong application from a PI with top teaching evaluations at Yale University. The institutional environment is outstanding, there is an experienced planning committee in place, and the team of faculty, despite their fairly junior status, are exceptional. The teaching methods proposed are excellent, combining different structured learning methods including project-based learning. Enthusiasm is diminished, however, by the fact that the course is heavily weighted toward social neuroscience and not balanced with neuroeconomics—this is true with respect to the course leadership, course content, faculty participation, and participant recruitment. Furthermore, the amount of material proposed to be covered in a short period of time (one week) may be too ambitious. Both the evaluation and dissemination plans are considered weak and the application could be strengthened by letters of commitment from anticipated speakers. Given these weaknesses, however, this application is recommended with high enthusiasm.

TRAINING IN THE RESPONSIBLE CONDUCT OF RESEARCH: The training in the responsible conduct of research is acceptable and adequately addressed.

DESCRIPTION (provided by applicant): Many financial and social decisions made throughout life can powerfully influence health outcomes in old age. To address these issues, two multidisciplinary areas of life-span research have emerged in recent years: neuroeconomics and social neuroscience. Despite the promise of these areas, unfortunately it remains rare for individual institutions to provide truly multidisciplinary training opportunities in either neuroeconomics or social neuroscience. The proposed activities will address this by offering workshops and summer schools to a broad audience of junior scientists all over the country. The goal of neuroeconomics is to better understand human decision making. Neuroeconomics uses an economic approach to understanding decision behavior that can potentially be generalized not only for the maximization of financial well being but also mental and physical health. Social neuroscience integrates multiple areas of psychology and neuroscience to better understand human social behavior. The social neuroscience approach identifies ways to optimize social, emotional, and physical health and well being. The primary goal of the proposed training activities is to provide the attendees with a broad base of knowledge and skills from the many subfields within neuroeconomics and social neuroscience. Another goal of the proposed events is to begin to bring together the neuroeconomics and social neuroscience communities for an even more integrative approach. Social neuroscience and neuroeconomics have largely grown up as separate fields, with separate conferences and very little cross-talk between communities despite a great deal of overlap in research interests (e.g., neural mechanisms of affective and social decision making, learning and valuation). To better understand the predictors of and strategies for optimizing health and well being in old age, scientific life-span research will need to continue to further integrate approaches, evidence, and theories from multiple disciplines given the multi-dimensional contributions to long-term health and well being. We expect that the novel training activities proposed here will increase the number of future scientists effectively working at the intersection of multiple fields which will promote creativity, facilitate communication across areas, introduce novel applications of methods and approaches to other areas, and promote more creative science.

PUBLIC HEALTH RELEVANCE: The recent, rapid rise in interdisciplinary research combining psychology, neuroscience, and economics has tremendous potential for increasing translation of science for real-world impact. Yet still nearly all students complete graduate degrees within one of these disciplines and opportunities for cross-training are limited at most institutions. The goal of this

series of courses is to provide broadly accessible, unique training opportunities for the next generation of interdisciplinary scientists.

CRITIQUES:

DISCLAIMER: Please note that the following critiques were prepared by the reviewers prior to the Study Section meeting and are provided in an essentially unedited form. While there is opportunity for the reviewers to update or revise their written evaluation, based upon the group's discussion, there is no guarantee that individual critiques have been updated subsequent to the discussion at the meeting. Therefore, the critiques may not fully reflect the final opinions of the individual reviewers at the close of group discussion or the final majority opinion of the group. Thus, the Resume and Summary of Discussion is the final word on what the reviewers actually considered critical at the meeting.

CRITIQUE 1:

Significance: 1
Investigator(s): 2
Innovation: 2
Approach: 1
Environment: 1

Overall Impact:

The idea of a summer school which brings together people from the social and affective neuroscience community with those from the neuroscience community could produce very valuable training for students. These areas are both new, but developing as silos, with different journals, meetings, and communities. This is unfortunate because one simply needs to look at the areas that are of interest, and one sees enormous overlap. The division may reflect a difference in institutional structure and intellectual histories rather than any underlying neural differences. This might help, not just with the 'trainees' but also with the faculty. The organizers are urged to maximize cross-faculty interaction.

1. Significance:

Strengths

- Summer schools have been central to the growth of new areas. The most famous example has probably the summer school, sponsored by the Russell Sage Foundation, in Behavioral Economics, which has gone on for at least two decades and is now run by former students. It not only exposed many of the brightest student to this area, but built community and provided direction. In fact, the non-psychological nature of behavioral economics descended from decisions made to emphasize student from economics.
- This, potentially, could have the same impact and have the nice side effect of uniting two potentially divergent fields. It is not a long term commitment, but long enough to provide visibility to the endeavor enabling it to attract the best faculty and students.

Weaknesses

- The three aims are well selected. The application is a bit weak on its inclusion of normative economics. It's not important that this be at the graduate level, but too often the budding Social Neuroscience types demonstrate poor understanding of basic economic models. These often are wrong and are based on caricatures of the discipline. No easy solution, but not sure the core committee has sufficient strength in this area. There is also a little concern about the balance between aging and other questions in the areas.

2. Investigator(s):

Strengths

- The proposer has great energy and seems to be quite good at organizing this kind of program. The core committee is young and excellent and probably have the time and energy to execute these ideas. The extended committee is also excellent, but lacking perhaps some relatively 'pure' economists and contains lots of people who are incredibly busy. At the same time many of these folks have experience running summer school programs.

Weaknesses

- The lack of people with more traditional (if sympathetic) perspectives from economics and from the judgement and decision-making communities.

3. Innovation:

Strengths

- The model is, in itself not very innovative, but the field is, and the cross training does not currently exist, even at the graduate level, at most schools.

Weaknesses

- Would like to see more detail about how instruction would survive after the course. While most summer schools make an effort to capture materials, it is often that the reality is much weaker than the promise. This takes a lot more upfront planning resources than anticipated, and the application is a bit skimpy on this.

4. Approach:

Strengths

- Most of the planned activities are great, if a bit sketchy. One thought is that prior summer schools tend to be 2 weeks. This has advantages (and is more time consuming and expensive).

Weaknesses

- While the application is convincing about the intellectual strength of the area, the actual content of the course is a bit vague. Particularly with a shorter summer school, there is a lot to cover and not much time.
- There is concern that the Sfn-Neuroeconomics meeting already has a set of tutorials and some pre-conferences, so it is not clear how this will work.

5. Environment:

Strengths

- Seems great. Has hosted previous programs and is an international summer school (Stanford) and alternating between coasts is a positive attribute. Suggesting that faculty would be drawn, as possible, by geography would maximize the breadth of presented faculty and minimize costs.

Weaknesses

- No mention is made of any hands-on training or exposure. Surely this might be a possibility to have students play games, observe ongoing studies, etc.

Budget and Period of Support:

Recommend as Requested

CRITIQUE 2:

Significance: 1

Investigator(s): 3

Innovation: 2

Approach: 3

Environment: 1

Overall Impact:

This R25 application requests 5 years of funding to develop and run an annual summer training course in neuroeconomics and social neuroscience of aging. The goal of the course is to provide an interdisciplinary bridge across these two fields for junior scholars who lack access to interdisciplinary training at their home institutions. The course is aimed at 30 participants each year, with participation by many proposed faculty across areas of neuroeconomics and social neuroscience. The proposed topic for the course is significant and the need for training is high. The PI is junior (still in the middle of his own K99-R00 award), although he was part of a similar effort to develop an R24 research network on neuroscience and aging and has received top teaching evaluations in his courses in Yale.

1. Significance:

Strengths

- How aging affects decision-making is highly significant and especially urgent as the U.S. confronts a rapidly aging population.
- Particularly important to understand how these capacities vary across different domains,
- Emphasis on what reflects “normal” aging and what reflects underlying cognitive decline or disease processes.
- Neuroeconomics and social neuroscience overlap in important ways; integration of the two fields could advance knowledge.

Weaknesses

- None noted.

2. Investigator(s):

Strengths

- PI has some experience in developing similar efforts; he was one of several founding directors of the international Scientific Research Network on Decision Neuroscience and Aging (an NIA R24-funded network).
- Strong organizing team, though relatively junior.

Weaknesses

- Candidate is not yet an established investigator with a demonstrated and sustained record of scientific leadership. Although PI is on an impressive trajectory, he is still very junior--an assistant professor of psychology only since 2013--and still in the R00 phase of his K99-R00 pathway to independence award.

3. Innovation:

Strengths

- Blending of multiple learning approaches, large group lectures, discussion groups, and team-based learning through interdisciplinary proposal development.
- Incorporation of prior participants as teaching fellows.
- Post-course evaluation blends feedback with learning assessment through web-based application.

Weaknesses

- Not provided

4. Approach:

Strengths

- Team-learning approach pairs neuroeconomics students with social neuroscience students for project work.
- Video dissemination of lectures to the public will expand the reach of the program.
- Students who complete the program will be invited to participate in future events as teaching fellows.

- Integration of RCR training into offerings, by key faculty who themselves are experts in managing RCR issues in their own lab settings.
- Excellent diversity outreach plan, makes use of RCMARs.
- Strong evaluation plan uses graded projects conducted by participants and post-course web-based quizzes to assess course performance; evaluation strategy also includes formal opportunity for students to provide feedback on future topics.

Weaknesses

- While the diversity recruitment plan is excellent, it is not obvious what information a written “diversity statement” provides and how you would evaluate that (e.g., what do “non-diverse” students do with that?).
- While the organizing committee appears committed to the effort, speaker commitment to the program difficult to gauge (no letters of support provided).
- Proposed topics and associated speakers are heavily representative of social neuroscience, light on neuroeconomics.
- Low participation by economists; only a few are named in the proposed program and there is only one letter of support from an economist (Dr. Rangel, who is on the organizing committee).
- Concern that the program will attract disproportionate number of psychologists; need better plan for ensuring the program is attractive to economics students and junior faculty and will generate enough participation by them; if the faculty, program, and participants are not balanced across the two fields, then program unlikely to meet its goal of integrating the two fields (not to mention the interdisciplinary project pairing will not work).
- Criteria for program acceptance doesn’t guarantee balance across the two fields.
- Not evident why a lab manager who manages subject participation in research is needed 25% time for this program (see Budget Justification).

5. Environment:

Strengths

- Yale is a superb environment to host the educational program.

Weaknesses

- None noted.

Budget and Period of Support:

Recommend as Requested.

CRITIQUE 3:

Significance: 2

Investigator(s): 1

Innovation: 3

Approach: 3

Environment: 1

Overall Impact:

This is an excellent application that is designed to provide interdisciplinary training opportunities for young scientist that integrate psychology neuroscience, and economics. Superb young scientists with truly outstanding track record in their field of expertise. Additionally, they have assembled a fully outstanding group of potential core faculty for the proposed workshops. Overall, the proposed project is certain to have a very high-impact on attracting and training young scientists to address important age-related questions in social neuroscience and neural economics.

1. Significance:

Strengths

- The application has high significance with respect to its probable impact on strengthening the number of scientist working in aging and neuroeconomics and other aspects of social and affective neuroscience.

Weaknesses

- The content of the proposed workshop is very vague and unspecified.
- The constant criticism of approaches taken by psychologists and others is a bit grating. The application is actually presented as two disparate topics with the neural economics of aging isolated from the social and affective neuroscience of aging. The investigators, in fact, seem to see this new discipline as two separate disciplines, inadvertently propagating an approach from which they claim to depart.

2. Investigator(s):

Strengths

- All three organizers are absolutely top-notch and have been trained buy the best senior faculty in the field. Their excellent productivity and enthusiasm come through clearly in the application and there is little doubt that this team will develop vibrant and energizing workshops.

Weaknesses

- None noted.

3. Innovation:

Strengths

- The primary elevation here is in the ability leaders across multiple fields and universities to join forces to create a stellar scientific experience for other young scientists.
- There is little doubt that the attendees at the meetings will find this is to be a seminal experience in their careers.

Weaknesses

- The approach taken is fairly tried-and-true, but one has no doubt that the science presented at these meetings will be innovative and cutting edge.

4. Approach:

Strengths

- The depth and breadth of the scientific talent that is proposed is exceptional and should lead to exciting events with top notch science presented.

Weaknesses

- The failure to present a proposed program for even one event is disappointing.
- The failure to present the general themes around which each meeting would be organized is disappointing.
- It is not entirely clear from the presentation how neuroeconomics it will be integrated with affective neuroscience, since these are presented in a separate topics in the application.

5. Environment:

Strengths

- The environment for the proposed workshops this is outstanding.

Weaknesses

- None noted.

Budget and Period of Support:

Recommend as Requested.

THE FOLLOWING RESUME SECTIONS WERE PREPARED BY THE SCIENTIFIC REVIEW OFFICER TO SUMMARIZE THE OUTCOME OF DISCUSSIONS OF THE REVIEW COMMITTEE ON THE FOLLOWING ISSUES:

COMMITTEE BUDGET RECOMMENDATIONS: The budget was recommended as requested.

Footnotes for 1 R25 AG053213-01; PI Name: Samanez Larkin, Gregory R

NIH has modified its policy regarding the receipt of resubmissions (amended applications). See Guide Notice NOT-OD-14-074 at <http://grants.nih.gov/grants/guide/notice-files/NOT-OD-14-074.html>. The impact/priority score is calculated after discussion of an application by averaging the overall scores (1-9) given by all voting reviewers on the committee and multiplying by 10. The criterion scores are submitted prior to the meeting by the individual reviewers assigned to an application, and are not discussed specifically at the review meeting or calculated into the overall impact score. Some applications also receive a percentile ranking. For details on the review process, see http://grants.nih.gov/grants/peer_review_process.htm#scoring.

MEETING ROSTER
National Institute on Aging Special Emphasis Panel

NATIONAL INSTITUTE ON AGING
Aging Education Development Projects
ZAG1 ZIJ-4 (M1)
02/05/2016

CHAIRPERSON(S)

MARTIRE, LYNN M., PHD
PROFESSOR
DEPARTMENT OF HUMAN DEVELOPMENT
AND FAMILY STUDIES
THE PENNSYLVANIA STATE UNIVERSITY
UNIVERSITY PARK, PA 16802

MEMBERS

BELSKY, DANIEL WALKER, PHD
ASSISTANT PROFESSOR OF MEDICINE
DUKE UNIVERSITY SCHOOL OF MEDICINE
DURHAM, NC 27708

BOARDMAN, JASON D, PHD
ASSOCIATE PROFESSOR
DEPARTMENT OF SOCIOLOGY
UNIVERSITY OF COLORADO AT BOULDER
BOULDER, CO 80309

CLARK, CHERYL RENEE, MD, SCD
ASSISTANT PROFESSOR AND DIRECTOR
HARVARD MEDICAL SCHOOL
DIRECTOR, HEALTH EQUITY RESEARCH AND
INTERVENTION
DIVISION OF GENERAL MEDICINE AND PRIMARY CARE
BRIGHAM AND WOMEN'S HOSPITAL
BOSTON, MA 02130

DERBY, CAROL A, PHD *
ASSOCIATE PROFESSOR
DEPARTMENTS OF NEUROLOGY AND EPIDEMIOLOGY
ALBERT EINSTEIN COLLEGE OF MEDICINE
BRONX, NY 10461

DOMINGUE, BENJAMIN PHD
ASSISTANT PROFESSOR
STANFORD GRADUATE SCHOOL OF EDUCATION
STANFORD, CA 94305

FAIN, MINDY J, MD
PROFESSOR OF MEDICINE
CHIEF, GERIATRICS, GENERAL INTERNAL MEDICINE
CO-DIRECTOR ARIZONA CENTER ON AGING
UNIVERSITY OF ARIZONA COLLEGE OF MEDICINE
TUCSON, AZ 85719

FITZPATRICK, ANNETTE L, PHD *
RESEARCH PROFESSOR
DEPARTMENT OF EPIDEMIOLOGY
UNIVERSITY OF WASHINGTON
SEATTLE, WA 98115

JOHNSON, DAVID K, PHD
ASSOCIATE PROFESSOR IN PSYCHOLOGY AND
GERONTOLOGY
UNIVERSITY OF KANSAS
LAWRENCE, KS 66045

JOHNSON, ERIC J., PHD *
NORMAN EIG PROFESSOR OF BUSINESS
COLUMBIA BUSINESS SCHOOL
COLUMBIA UNIVERSITY
NEW YORK, NY 10027

MAESTAS, NICOLE A, PHD
ASSOCIATE PROFESSOR OF HEALTH CARE POLICY
PARDEE RAND GRADUATE SCHOOL
RAND CORPORATION
SANTA MONICA, CA 90407

PARK, DENISE CORTIS, PHD
PROFESSOR
CENTER FOR VITAL LONGEVITY
UNIVERSITY OF TEXAS AT DALLAS
DALLAS, TX 75235

PERLS, THOMAS T, MD *
PROFESSOR OF MEDICINE
DEPARTMENTS OF MEDICINE AND GERIATRICS
BOSTON UNIVERSITY MEDICAL CENTER
BOSTON, MA 02215

VOLPP, KEVIN G, MD, PHD *
DIRECTOR
CENTER FOR FEDERAL
HEALTH INCENTIVES AND BEHAVIORAL ECONOMICS
UNIVERSITY OF PENNSYLVANIA
DEPT. OF MEDICINE
PHILADELPHIA, PA 19104

ZELINSKI, ELIZABETH M, PHD
PROFESSOR
RITA AND EDWARD POLUSKY IN EDUCATION AND AGING
PROFESSOR OF GERONTOLOGY AND PSYCHOLOGY
USC DAVIS SCHOOL OF GERONTOLOGY
UNIVERSITY OF SOUTHERN CALIFORNIA
LOS ANGELES, CA 90089

SCIENTIFIC REVIEW OFFICER

FIRTH, KIMBERLY, PHD
SCIENTIFIC REVIEW BRANCH
NATIONAL INSTITUTE ON AGING
NATIONAL INSTITUTES OF HEALTH
BETHESDA, MD 20892

EXTRAMURAL SUPPORT ASSISTANT

SEMICH, KATRINA E.
EXTRAMURAL SUPPORT ASSISTANT
SCIENTIFIC REVIEW BRANCH
NATIONAL INSTITUTE ON AGING
NATIONAL INSTITUTES OF HEALTH
BETHESDA, MD 20892

PROGRAM REPRESENTATIVE

NIELSON, LISBETH, PHD
CHIEF
INDIVIDUAL BEHAVIORAL PROCESSES BRANCH
NATIONAL INSTITUTE ON AGING
NATIONAL INSTITUTES OF HEALTH
BETHESDA, MD 20892

Consultants are required to absent themselves from the room during the review of any application if their presence would constitute or appear to constitute a conflict of interest.