INTERNATIONAL RESEARCH GRANT PROGRAM ANNOUNCEMENT
FISCAL YEAR 2013 (November 2012–August 2013)

Also available in PDF format on the Alzheimer’s Association Website at
www.alz.org/2013grantprogram

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The purpose of the International Research Grant Program Announcement is to help applicants understand the context and history of the Alzheimer’s Association International Research Grant Program and to publicize high-priority areas of focus for the current fiscal year. However, applicants should not consider areas of focus restrictive—projects exploring other topics are actively encouraged, even if they fall outside the areas discussed below.

I. BACKGROUND: ASSOCIATION MISSION AND SCIENTIFIC AGENDA

The Alzheimer’s Association was founded in 1980 by a small group of family members caring for loved ones with Alzheimer’s disease. These individuals were united in disappointment with the quality of information available to them and in dissatisfaction with the lack of medical and social awareness of this devastating condition. Two years after its founding, the fledgling organization funded its first research grant, awarding a total of about $80,000 to a handful of investigators. Since then, the Association has grown into the largest nonprofit funder of Alzheimer’s research, awarding over $12.2 million during the 2012 grant cycle (nearly an 8.5 percent funding level) to bring the cumulative total of Association-funded research to more than $300 million.

The Association supplements its own funding efforts with public policy initiatives directed toward increasing Alzheimer’s research funding at the federal level. The Association also works tirelessly to support and educate its constituents by providing high-quality information in non-specialist language about its grants program and general issues in Alzheimer’s research, prevention, treatment and care.

The Association's International Research Grant Program has served historically as an incubator for novel ideas, complementing the programs of the National Institute on Aging and the other institutes of the National Institutes of Health. As our funding initiative has grown and matured, grant categories have expanded to support researchers at every stage in their careers. Funded projects now explore the broadest possible spectrum of biological approaches to understanding, preventing and treating Alzheimer’s; social and behavioral strategies for ameliorating the effects of the disease on individuals and their families and professional caregivers; clinical studies; and adaptive technologies.

Surveys conducted on behalf of the Association continue to affirm that research support is the highest priority of our constituents and the general public. In response to this overwhelming sentiment, the Association’s National Board mandates research as an ongoing major emphasis. For the 2013 grant cycle, our areas of focus include historically underserved populations, as well as the growing number of specific cultural and ethnic...
groups, and their aging members, in this rapidly diversifying society.

Expanding our emphasis in these directions affirms the Association’s long support of research and emphasizes the following strategy in the Association’s 2012–2014 Strategic Plan:

**Strategic Objective:** Accelerate progress in global Alzheimer's research by increasing funding by the Association, engaging more people in Alzheimer's science priorities, leading global efforts to advance key issues and supporting emerging needs.

There are three priority activities the Alzheimer’s Association is committed to moving forward to help achieve this strategic objective:

1. Increase participation by 30 percent in Alzheimer's disease science priorities by engaging individuals, chapters and institutions in the global research effort.
2. Advance key issues in Alzheimer's research by leading global efforts in the creation, standardization, validation and qualification of diagnostic and interventional tools for the scientific community. Initiate and/or facilitate two global or national efforts.
3. Accelerate progress in global Alzheimer's research by addressing emerging needs with a focus on new investigators and the launch of three novel and innovative programs that reshape the field.

In addition, there are three overarching objectives embedded in all programs of the Association, as well as the Strategic Plan:

1. Support and extend the ability of people with Alzheimer’s disease to function independently through safe and effective interventions, using pharmacological, behavioral and other approaches.
2. Find the cause(s) of Alzheimer's disease, from its biological underpinnings to the impact of cultural, behavioral, social and environmental factors on disease progression.
3. Prevent Alzheimer's disease through improved methods of detection, early intervention and the discovery of risk factors, including the interactions of molecular, genetic, environmental and cultural variables.

The thrust of the Association's research program can be summed up in three words: quality of life. All of the Association’s research efforts are aimed at some aspect of improving the quality of life of people with the disease, their families and care providers. This will be accomplished through social and behavioral research, studies to improve diagnosis or design new treatments, research to elucidate the cause of the disease and ultimately, studies and programs to eradicate Alzheimer's disease.
II. AREAS OF FOCUS FOR THE 2013 INTERNATIONAL RESEARCH GRANT PROGRAM

Areas of focus are high-priority research areas in which the Association actively seeks proposals. The areas are defined broadly, and the examples cited are not intended to preclude or constrain other investigator-initiated projects or proposals. Potential applicants are strongly encouraged to submit proposals in their own areas of interest or formulate questions different from those presented in this announcement. Investigator-initiated research projects are the core of the Association's scientific program.

i. Research in Diverse Populations: Closing the Gap

Results of the 2000 census confirm that the overall population of the United States is rapidly becoming more diverse. However, the language and techniques often used to characterize diverse populations fail to reflect the true richness of origin, culture, and genetic variation represented in our society. This failure is well illustrated by the following excerpt: “Today, discussion of cultural diversity—ethnicity—most often identifies four major U.S. ethnic subgroups: African Americans (Blacks), Asian Americans and Pacific Islanders (or Pan Asian populations), American Indians and Alaska Natives, and Hispanics (or Latinos). Indeed, the term ‘Asian Americans’ represents more than 50 distinct linguistic groups. African Americans include persons who trace their roots to Africa, who were born in Africa, or who were born in the Caribbean Islands. Hispanics count more than 25 different countries of national origin. American Indians and Alaska Natives encompass over 500 federally recognized tribes and groups, with at least 30 different languages.” (From The Fourth Report of the Advisory Panel on Alzheimer's Disease, 1992: A Report to the U.S. Congress and the U.S. Department of Health and Human Services; NIH Publication 03-3520.)

As the general population reflects a richer ethnic mix, subpopulations of older adults and those at risk for Alzheimer's disease are also growing more diverse. These extraordinarily rapid demographic changes are forcing organizations to re-evaluate whether they have sufficient knowledge of all groups within their potential clientele to deliver programs and services effectively. The Alzheimer's Association has concluded that there are significant information and data deficits about ethnic and cultural groups in most major research areas in Alzheimer's disease. These include screening and neuropsychological testing instruments; diagnostic procedures; recruitment and retention in research protocols and clinical trials; clinical and neuropathological correlative studies; caregiving and family studies; basic laboratory investigations; genetics projects; development of new models of long-term care and management of these services; epidemiological and health services research; and the economics of care.

Our understanding of Alzheimer's disease is limited by the characteristics of the people who have traditionally been included in investigations. There is a need for basic sociological and anthropological data about Alzheimer's disease, families and caregiving in specific cultural, social, and regional contexts to provide a working platform for effective service, education and program delivery.
To fill these gaps in knowledge, projects must address the following issues:

**Socioeconomic status:** What is the effect of high or low socioeconomic status on Alzheimer’s disease and its meaning in diverse populations? How can services for people with Alzheimer’s disease and their families be developed most effectively to reach the range of socioeconomic levels of people and those from minority-groups. What level of importance do information and funds have on purchasing help and services? What is the best method to convey information about Alzheimer’s disease to specific diverse groups?

**Values and beliefs:** How do values and beliefs shape receptivity to and perceptions about community-based and institutional services for Alzheimer’s disease? How do values, beliefs, and perceptions vary among groups? How do the beliefs about Alzheimer’s disease and normal aging encourage or prevent use of services? How must services and programs respond to be effective in the face of values and beliefs?

**Role of the family and community:** In specific diverse groups, how does the role of family differ in the long-term care of older members with dementia? How does the decision-making process differ in these groups? Is it necessary to understand family dynamics before planning interventions and services?

**Geographical and regional variation:** How do these factors affect the development and provision of services and programs? How do they interact with socioeconomic status and minority group membership in majority locales?

**Interactions among factors:** How do socioeconomic status, values and beliefs, the role of the family, and geographical and regional differences interact to influence care and service delivery to people with Alzheimer’s disease and their families?

Incidence, prevalence and risk factors—key facts about the epidemiology of Alzheimer’s disease—remain unknown in many defined ethnic and cultural groups. To better quantify the public health implications of Alzheimer’s and support the development of necessary programs and services, reliable and valid data on the distribution of the disease in the U.S. population must be obtained.

Acquiring meaningful epidemiological data for diverse groups will require the ability to accurately detect and monitor Alzheimer’s disease in the target population. In most cases, adequate tools for detection and monitoring do not exist. These research instrument deficits inhibit epidemiological investigations and limit the conduct of behavioral, social and clinical studies.

The following points outline some of the tools, instruments and strategies needed to address these deficiencies. Although very large population studies fall outside the funding scope of the Alzheimer’s Association, smaller, well-designed studies can effectively address a number of the information and instrument gaps that must be filled. This list is not exhaustive but is intended to highlight the types of research needed:
**Screening and assessment instruments** that are valid and reliable for specific age, gender, cultural, language, and ethnic groups, as well as for different levels of education and literacy, are needed as soon as possible. Expansion of epidemiological, behavioral, social and clinical research is hampered by the lack of these instruments.

**Test norms standardized for age and gender for specific ethnic groups** are also needed urgently. These norms must take into account language, education level, and literacy as well as educational equivalency between cultures and countries of origin. Norms derived from majority group data are often applied to minority groups and can result in misleading interpretations. This misapplication is especially serious for people with little or no formal education.

In research on Alzheimer's disease—especially in clinical drug trials—identification, recruitment, enrollment and retention of members of diverse cultural groups have lagged. Minority group members have been underrepresented in much of the research in Alzheimer's disease. The published literature on barriers to enrollment and retention has been largely descriptive and anecdotal. It is time to initiate a program of hypothesis-driven research to determine the efficacy of specific methods to enlist and retain ethnic minority and cultural group members in Alzheimer's disease research. Some of the issues of interest include:

**Cross validation:** Programs that are successful in the recruitment, enrollment, and retention of cultural group members must be cross-validated with other cultural groups and in different geographic areas to determine their broad-based usefulness in research.

**Contacts:** The differences in the effectiveness of recruitment approaches, and the mechanisms underlying these differences, must be explored. For example, under what circumstances are individual or local community-rooted approaches more effective than large mass media or marketing approaches? How do specific, clearly defined cultural groups differ from one another in the acceptability of various approaches and methods of contact?

**Culturally competent investigators or investigators who are members of the cultural group:** What difference does the cultural identity of the investigator make in successful identification, recruitment, enrollment and retention of specific cultural group members? Does it enhance long-term successful retention to have investigators who are of the same cultural group as the people to be recruited? Or, is it adequate that the investigator be culturally competent? And what, precisely, does it mean to be culturally competent for the purposes of Alzheimer's research?

**Community barriers:** What are the real and perceived barriers to participation in Alzheimer's disease research in specific cultural groups? How can these barriers be overcome?
ii. Social/Behavioral and Cognitive/Functional Focus: Evaluating Interventions and Translating Knowledge into Practice

Social and behavioral research has the potential to increase our understanding of the effects of Alzheimer’s disease and other dementias on individuals with the disease, their families and other caregivers. At the same time, it can increase our knowledge about interventions that improve care practices, health, functional and emotional outcomes and quality of life, as well as prevent or reduce symptoms for millions of individuals and their families.

It is important to consider the influence of socioeconomic status, cultural and ethnic diversity, health/lifestyle practices, stigma and family attitudes about seeking care, availability of services and regional variation when proposing research about social and behavioral issues. Alzheimer’s disease is heterogeneous, and the people with Alzheimer’s disease are heterogeneous. Research into understanding these factors and how they might influence treatment outcomes (both in pharmacological and non-pharmacological trials) as well as the natural course of the disease are needed.

In addition, earlier detection and diagnosis are increasing the number of individuals identified with early-stage dementia. The characteristics and care needs of diagnosed individuals and their families in early, middle and late stages of Alzheimer’s disease differ greatly. Social and behavioral research proposals should consider these differences in the design of proposed studies and the translation of findings from research into practice.

A wide range of questions in the social and behavioral arenas are ready for research. The answers to these questions, if broadly applied, would improve the quality of daily life for people with Alzheimer’s disease and their families. The questions under each domain are provided as examples to facilitate the development of more specific research questions. Each investigator is encouraged to tailor his or her question to particular populations.

(1) Person with dementia: Over time, we have been able to gain an understanding of the experience of the person with dementia. This can be attributed to such things as people in the early stages speaking and writing about their experiences and the development of individualized approaches to care. Some questions include, but are not limited to:

- How can the experience of the person with dementia be characterized throughout the disease course to provide insight into areas such as decision-making capacity, quality of life and advance planning?
- How can the perspective of the person early in the disease process help shape decisions and care?
- Do personal or social factors influence the experience of the person with dementia in important and measurable ways?

(2) Physical and social environment: Environmental design for persons with dementia is a multi-dimensional construct that purports to satisfy the need for autonomy, dignity, safety, comfort and community as well as enhance one’s mobility, cognition and memory. We need to gain a better understanding of the specific dimensions of the environment, as
well as their interaction, and how they produce desired outcomes, such as:

- What characteristics of one’s physical and social environment contribute to an individual’s quality of life? How do these characteristics change through the course of illness?
- What are the components of a supportive environment in the home or residential care setting for someone with cognitive impairment? How do these components change through the course of illness?

(3) **Family and household:** The family of a person with dementia often plays a critical role in providing care and navigating the health and long-term care systems. Although caregiving has been studied intensively, there is still a need to understand how best to support the families that provide care and enhance (or ameliorate) the impact on the family. Research in this area may include, but is not limited to:

- What unique problems are encountered by families of persons with various types of dementia (e.g., early-onset dementia), and what interventions, services and policies are needed to mitigate those problems? How are these problems affected by the characteristics (e.g., socioeconomic status, culture and ethnicity, region of the country) of the families?
- What interventions can improve communication among family caregivers, persons with dementia and their health and long-term care providers and have a positive effect on care and outcomes?
- What effect do family attitudes about dementia have on the self-image and functioning of persons with dementia?

(4) **Identification and evaluation of services and interventions:** Researchers and care providers together must identify and evaluate the broad range of factors that can affect programmatic interventions. Examples include:

- What interventions or programs are most likely to have positive effects for people with Alzheimer’s disease and/or their families in the community?
- What interventions or programs are most likely to have positive impact on people with Alzheimer’s and the staff providing care in residential care settings?
- What characteristics of programs and services render them most acceptable to people with the illness and their families?
- What are the most effective strategies to motivate physicians and other health care providers to improve the quality of care they provide to people with dementia in clinical and long-term care settings?
- How can we translate programs developed in research settings to be effectively delivered in the community?
- What are the best strategies for effectively sustaining improved practices – either in the home or care setting?

(5) **Health policy:** Research can guide the adoption of policies that reshape systems of support in the home, community and health and long-term care settings. Researchers and policy makers together must ensure that public and private policies respond to the unique needs of those with dementia. Research may investigate questions like:
• What techniques should be used to determine consumer preferences for and satisfaction with their health and long-term care when the consumers have dementia?
• What techniques should publicly funded programs use to identify and properly care for people with dementia, including those with multiple chronic conditions?

(6) Maintaining cognitive function: Growing evidence suggests that lifestyle factors and behaviors interact with biological functions in maintaining cognitive function. It is important to find ways to effectively share information about prevention and about the potential benefits of changing behaviors.

(7) Implementation and dissemination of knowledge: With the development of novel interventions and the investigation of these interventions in scientifically valid ways, strategies for disseminating them must be established. Studies must bridge the gap between what has been demonstrated empirically and the daily care practices for people with Alzheimer's disease. Often, lack of knowledge about what constitutes a successful intervention hinders the transfer of the technique to everyday care settings. The research world is fragmented and disseminates its findings in ways that are not easily or routinely available to various audiences. Finding ways to meet this challenge and getting the information out to those who need it is essential.

• What strategies are effective for getting the science of prevention and treatment out to the general public?
• How can we measure and evaluate public response to (or acceptance of) such information?
• How can we measure and evaluate people's use of the information to change important behaviors? What help do people need to support important lifestyle changes?
• How can the effect of these strategies be measured in relation to their impact on cognitive decline?

(8) Cognitive/functional focus
By definition, dementia impacts cognitive function and day-to-day abilities. It is important to understand the nature of these changes, as well as their biological basis. This can lead to better diagnoses, potential targets for treatment, and better understanding of the disease itself.

There are several themes that are considered important foci of potential proposals, including but not limited to:

1. Identification of cognitive/functional profiles:
   • Differentiation of cognitive/functional profiles in different forms of dementia
   • Identification of earliest cognitive/functional changes in the MCI or "predementia phase"

2. Development of better measures for diagnosis, testing, clinical trials
3. Identification of neural/biological correlates of cognition/function:
   - Identification of underpinnings of cognitive change
   - Correlation of imaging measures such as brain volume, cortical thickness, white matter hyperintensities, regional cerebral blood flow, brain amyloid with cognitive and functional changes
   - Correlation of biological measures from blood or CSF with cognitive and functional changes

4. Investigation of how cognitive and functional changes impact medical, legal, and day-to-day issues:
   - Relation of cognitive changes to the ability to consent
   - Exploring the impact of disease on medical or financial decision-making
   - Exploring metacognition, the recognition of deficit

5. Use the cognitive neuroscience approach to better understand and characterize cognitive/functional changes:
   - Use functional MRI, EEG, or other functional imaging measures to help identify functional brain changes underlying cognitive/functional change
iii. Biological Focus: Causes, Early Detection, Treatment, Models, Prevention and Risk Factors

Although vast advances have been made in Alzheimer’s research, the field still faces a great number of serious impediments to progress in translating basic science discoveries into effective treatments and evidence-based clinical practices for dementia. Some of the many challenges that remain for investigators to address include:

**Cause(s) of the Disease:** How and why do specific sets of neurons in select brain structures become dysfunctional? Why do some neurons and not others die? What initiates these processes? What is the key step in the cascade of events leading to cell death? How do genetic factors interact with other factors to influence these processes?

The primary neuropathological events in Alzheimer’s disease involve abnormal expression and processing of proteins. Advances in molecular biology have provided the tools needed to begin to unravel the mechanisms of synthesis, trafficking and accumulation of these proteins in the brain. Research in this area has begun to produce promising leads about the role of these proteins in neural function, dysfunction, and cell death and to suggest strategies to correct this molecular damage. Although these insights into the neurobiology of the disease have generated a number of ideas, the precise etiology of the disease is still not known. While there are many theories on possible mechanisms of neural dysfunction and/or cell death, critical questions remain unanswered.

None of these theories has been validated by crucial experiments designed to demonstrate the functional relationship(s) between characteristic molecular aberrations and the clinical manifestations of the disease. One of the most difficult challenges for the field is to link the perspectives of investigators inhabiting two totally different worlds: those who view Alzheimer’s disease through the prism of molecular/neuropathological events and those who know it through its behavioral and clinical manifestations.

The precise relationships between the clinical symptomatology and the neuropathology of the disease are not well defined. There is a critical need to understand not only the presumptive causal links between the neurobiology and clinical course of the disease but also the mechanisms for the heterogeneity of presentation. These mechanisms may vary widely and may influence differential diagnosis and differences in adverse events/responses to treatments.

**Early and Accurate Detection and Diagnosis:** What are the most sensitive, specific and cost-effective diagnostic procedures? What are the most sensitive, specific and cost-effective procedures for assessing change through the course of the disease?

Several converging lines of evidence suggest that the neurodegenerative processes associated with dementia begin several years before the first clinical features can be detected with current instruments. The precise duration of the preclinical period and the details of the early molecular events are not known. This uncertainty about symptom-free
early stages of the disease stems from the lack of well-validated tools or technologies for
detection.

Although clinical information can be gleaned from longitudinal studies, even these data are
usually obtained in the middle to later stages of the disease when some of the cognitive
and behavioral signs appear. As a result, there is little or no information on manifestations
of the disease during its earliest preclinical stages or the very earliest behaviors of
individuals at risk. These gaps result from the lack of appropriate technologies for
noninvasive observation and early detection of the disease. Finding sensitive and specific
markers will become even more important as pressure increases to develop very early
treatments, especially if these early interventions have the potential for harmful side
effects, it is crucial that they be targeted appropriately. Thus, there is an urgent need to
find accurate biological markers of the disease, including improved imaging techniques
and more sensitive cognitive and behavioral assessment instruments.

Any effective biomarker must not only detect a fundamental biological process in the
disease, but should also be validated in an adequately powered study with
neuropathologically confirmed cases. The ideal marker should have sensitivity greater than
80 percent for detecting disease and specificity also greater than 80 percent for
distinguishing Alzheimer’s from other dementias. Testing for the marker should be reliable,
reproducible, non-invasive, simple to perform and inexpensive. In addition, a putative
biomarker should have confirmation by at least two independent studies conducted by
qualified investigators. Currently, none of the putative biochemical markers have been
validated in adequately powered investigations.

Well-tested biological markers for Alzheimer’s disease are not the only critical need—it is
also important for investigators to explore the observational and subjective perspective that
family members, care providers and people with the illness can provide about the very
earliest events. The observations of family members, nurses, social workers and other
care providers have already provided some important insights about early cognitive and
behavioral events.

Treatment: What are the most effective and safe pharmacological treatment
strategies, behavioral management techniques, and combinations of therapies?
Research on interventions is poised for a revolution. The timing of the revolution is open to
speculation—it may take two years, it may take ten—but it will happen. Dramatic advances
in understanding the neurobiology of Alzheimer’s—including elucidation of many genetic
and molecular mechanisms involved in the disease—have provided numerous promising
leads for drug development. It is now generally agreed that the most critical
neurobiological events underlying the behavioral problems and clinical manifestations of
the disease concern dysfunctions in nerve cell signal transduction, loss of synapses, and
premature cell death. The primary scientific dispute revolves around theories concerning
the precise cause or source of these destructive processes. Currently, the field of
Alzheimer’s therapy has a rich array of promising leads as therapeutic targets. If such
potential treatments, using a variety of approaches, could be validated by well-powered
clinical trials, they will have a profound effect on addressing the disease. The eventual
utility/efficacy of any intervention can only be evaluated through clinical trials, which are expensive.

Until recently, strategies for developing interventions focused primarily on symptomatic treatments for middle and late stages of the disease. It is anticipated that as new therapeutic targets are discovered, it will be possible to improve the quality of signal transduction and the ability of nerve cells to communicate. As even more is learned about the neurobiology of Alzheimer’s disease, there will be greater reliance on techniques to design specific molecules aimed at correcting a particular cellular dysfunction. Some important therapeutic approaches should involve the discovery of interventions aimed at preventing premature cell death and restoring or prolonging the function of surviving damaged nerve cells.

Until effective pharmacological treatments are discovered, family and facility-based care providers must rely on a variety of behavioral and social interventions to assist in managing symptoms and maintaining the highest quality of life for people with Alzheimer’s disease. The development and testing of new social and behavioral interventions, in the appropriate cultural context, is a priority and is discussed under Social/Behavioral Research and Cognitive/Functional Focus.

**Experimental Models of the Disease: Advances and Limitations**
Considerable advances have been made in the development of animal models—especially transgenic mice carrying human genes for key Alzheimer proteins and variant forms of genes shown to be involved in dementia. Because these models make it possible to study the effects of specific factors such as Aβ, tau, and apolipoprotein E4 (apoE4) on memory and other cognitive functions, they have shed light on what each of these proteins may contribute to the development of Alzheimer’s disease. For example, transgenic mice producing human amyloid precursor proteins have revealed that Aβ can cause neuronal dysfunction and memory problems even when it is not clumped together in large amyloid plaques, which can be visualized in live individuals by radiological imaging. They have revealed similar dissociations between neurofibrillary tangles and memory problems and highlighted the disease-causing potential of smaller clusters of Aβ and tau that cannot yet be detected in brains of live individuals. In addition, these models have helped unravel the intricate processes by which these poisonous aggregates impair brain functions.

However, a limitation of these models is that they do not capture the full complexity of the human condition, which is problematic if one wants to use them to predict the success of specific therapeutic interventions in individuals with Alzheimer’s disease. For example, anti-Aβ treatments may be effective if the only protein causing problems is Aβ, but it may not be enough to treat Alzheimer’s disease in an individual who also has two apoE4 genes causing additional problems. To address these complexities, scientists are developing animal models that combine different factors. Determining whether these compound models can predict the success of therapeutic interventions for Alzheimer’s disease will have to await the first truly effective drug trial in humans. This benchmark will prove or disprove these models.
To circumvent species differences that may complicate the use of rodent models for human disorders, investigators are now turning to new technologies that make it possible to turn a person’s skin or blood cells back into stem cells and from there into mature neurons. Through this “induced pluripotent stem cell (iPSC)” approach, researchers can create individual- and disease-specific cell culture models that could have advantages over animal models. However, the full potential of this technology remains to be determined.

**Prevention: What are the prospects and strategies for prevention?**

One of the most important priorities is research on strategies to prevent Alzheimer’s. The importance of prevention is rooted in the severe effects of the disease on individuals and their families, the very large number of people with the illness and the anticipated growth of these numbers with the aging of populations in the United States and other countries. Developing effective preventive strategies will bring significant benefit in reducing the economic and social costs, preserving the economic productivity of those who are or will be family caregivers, and lessening the impact on the health care system.

The most convincing argument, however, is the humanitarian one—effective prevention can spare future generations from one of the most feared and disabling infirmities associated with advancing age.

Research into basic disease mechanisms can have immense benefit for development of strategies for disease prevention, but there is not always a tight link between understanding the mechanisms of a disease and preventing it. In fact, highly successful prevention efforts have been designed and conducted under circumstances in which disease mechanisms were understood poorly, or not at all.

In general, it makes sense that intervening early in the process that causes a disease is easier and more effective than intervening at later stages when the disease has already taken its toll and has gained momentum. The prevention of cardiovascular disease by early and aggressive treatment of high blood pressure or high cholesterol levels is a good case in point. Besides genotyping for apoE4 and other risk genes, there is currently no measurement that can identify people at increased risk for Alzheimer’s decades before the typical onset of the disease. Extensive efforts have been launched to change this situation. However, widespread genotyping for apoE4 is not currently recommended because of the lack of effective treatments for Alzheimer’s disease.

**Risk Factors: What are the characteristics, either genetic or acquired, that increase the risk of Alzheimer’s disease or offer protection against or delay the onset? How do the risk factors vary among specific diverse populations? Are any risk factors modifiable?**

Epidemiological studies reveal growing evidence that most cases of Alzheimer’s disease likely involve a combination of genetic and environmental risk factors. Identifying and validating these risk factors remains one of the most critical scientific challenges. The main risk factors so far validated for late-onset disease are age, family history and certain susceptibility genes.
The potential link between cerebral blood vessel disease and Alzheimer’s is one promising area of research. Vascular disease in the aged appears to have strong implications for neurodegeneration leading to dementia. Preliminary studies indicate that a broad spectrum of cerebrovascular lesions could lead to a decline in cognitive function. In addition, recent epidemiological studies have begun to implicate vascular conditions outside the central nervous system—such as heart disease and high blood pressure—as potential risk factors for dementia. The broader implication is the hypothesis that systemic vascular factors are risk factors for developing Alzheimer’s disease. This risk encompasses different forms of cardiovascular disease, including coronary artery disease, carotid atherosclerosis, history of hypertension or high cholesterol, Type II diabetes and stroke or transient ischemic attacks.

The e4 allele of the apolipoprotein E gene (apoe4)—which has been associated with increased risk of cardiovascular disease—is the best-validated susceptibility gene to date, with more widespread effects than any other genetic factor implicated in the late-onset, sporadic form of Alzheimer’s. Several mechanisms have been identified by which apoe4 could increase the risk of developing Alzheimer’s disease; most of them involve detrimental effects on brain cells rather than effects on the cardiovascular system.
### III. International Research Grant Program

#### i. Program Summary and Key Dates: Fiscal Year 2013

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| Letter of Intent | Open Receipt Date: December 13, 2012 | Deadline Date: February 1, 2013, 5:00 PM EST |
| Application Deadline Date | April 1, 2013, 5:00 PM EST |
| Review Process | March–June 2013 |
| Award Announcement | August 30, 2013 |

<table>
<thead>
<tr>
<th>Number of Awards:</th>
<th>Anticipate funding up to 25</th>
<th>Anticipate funding up to 20</th>
<th>Anticipate funding up to 4</th>
<th>Anticipate funding up to 2</th>
<th>Anticipate funding up to 1 U.S.-U.K.</th>
<th>Anticipate funding up to 3 NIRGD &amp; MNIRGD awards combined</th>
<th>Anticipate funding up to 4 DS/AD NIRG and 2 DS/AD IIRG awards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Request per year (in any given year) may not exceed:</td>
<td>$60,000</td>
<td>$100,000</td>
<td>$250,000</td>
<td>$90,000</td>
<td>$90,000</td>
<td>$60,000</td>
<td>$60,000</td>
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<tr>
<td>Maximum per award:</td>
<td>$100,000</td>
<td>$240,000</td>
<td>$450,000</td>
<td>$200,000</td>
<td>$260,000</td>
<td>$100,000</td>
<td>$150,000</td>
</tr>
<tr>
<td>Maximum number of years:</td>
<td>2</td>
<td>3</td>
<td>3 (minimum, 2 years)</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

Scientists from underrepresented groups are encouraged to apply.
The funding level for fiscal year 2012 was around 8.5 percent of submitted applications.

Each of the grant competitions, except the ETAC Grant and Zenith Fellows Award, shares the preceding areas of focus for fiscal year 2013, covered in Section II. Section IV of this program announcement provides complete details about each individual competition, including objectives, funding and award period, eligibility, receipt and award dates, mechanism of award, reporting requirements and allowable costs.

Procedures and processes common to all of the grant competitions are discussed here.

**ii. Scientific Categories of Proposals**
Each proposal must be submitted to a specific grant competition. In addition, all applicants in every competition are asked to classify their proposals according to five broad categories of scientific inquiry: (1) social and behavioral research, (2) clinical investigations, (3) basic biology, (4) adaptive technology, and (5) cognitive/functional. During second-level review, these categories help the Alzheimer’s Association Medical and Scientific Advisory Council ensure a balanced, well-distributed award portfolio.

Topics that would fall into the five cross-competition categories might include, but are not limited to:

1. **Social and behavioral research** (relevant to the NIRG, IIRG, ETAC, NIRGD, MNIRGD, U.S.–U.K. competitions, and DS/AD): research in diverse populations; assessment of novel approaches to care and support diagnosed individuals and caregivers; special needs of early-stage and early-onset individuals; analysis of the impact of the physical and social environment; evaluation of services and interventions; quality of life; ethical issues; and health policy.

2. **Clinical investigations** (relevant to all competitions): projects in which the majority of data is derived directly from studies involving active participation of human subjects. Examples include pilot studies of new therapies; neuropsychological testing; drug administration; biomarker collection; imaging technology; and risk factors including genetics, cardiovascular issues, diabetes and metabolic factors and lifestyle issues. *In vitro* projects conducted in human samples should be categorized as basic biology (the category below) rather than clinical investigations.

3. **Basic biology** (relevant to all competitions): these are bench science projects involving *in vitro* or animal work pertaining to the causes of dementia; early and accurate detection and diagnosis; animal models; treatments; and prevention. Please note that *in vitro* work involving human samples falls into this category.

4. **Adaptive technology** (relevant to NIRG, IIRG, ETAC, NIRGD, and MNIRGD competitions): research focusing on the use of emerging technologies and their clinical and social implications, including mobile computing, high-bandwidth sensing, “smart” environments, robotics, imaging, face recognition, natural language processing and
behavioral monitoring for early detection.

5. **Cognitive/functional** (relevant to NIRG, IIRG, ETAC, NIRGD, MNIRGD and DS/AD): research focusing on identification of cognitive/functional profiles, development of better measures for diagnosis, testing, clinical trials, identification of neural/biological correlates of cognition/function, investigation of how cognitive and functional changes impact on medical, legal, and day-to-day issues; and the use of the cognitive neuroscience approach to better understand and characterize cognitive/functional changes.

**Please note** that there are a few cases in which certain scientific categories do not apply to specific grant competitions. Applicability of categories to competitions is summarized in the table below. An empty box indicates the category does not apply.

<table>
<thead>
<tr>
<th>Scientific Category</th>
<th>NIRG</th>
<th>IIRG</th>
<th>Zenith</th>
<th>ETAC</th>
<th>NIRGD</th>
<th>MNIRGD</th>
<th>US-UK</th>
<th>YIEF</th>
<th>DS/AD NIRG and DS/AD IIRG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social/behavioral</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Clinical</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Basic biology</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Adaptive technology</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Cognitive/Functional</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

iii. **Eligibility, Ineligibility and Nondiscrimination Statement**
To avoid disqualification, investigators are encouraged to carefully consider these eligibility and ineligibility requirements before applying.

**Eligibility**
In general, public, private, domestic and foreign research laboratories, medical centers, hospitals and universities are eligible to apply. State and federal government-appropriated laboratories in the U.S. and abroad and for-profit organizations are prohibited from serving as the applicant institution. However, state and federal government scientists can participate as collaborating scientists with research teams from other eligible applicant institutions. For the Letter of Intent, you will be required to upload proof of your organization’s not-for-profit status, **the IRS determination letter needs to be within the last 5 years**. For non-profit organizations (non-academic), additional documentation may be required to confirm your organization has segregation of duties between transaction execution and transaction recording.
Ineligibility
This section describes general exclusion criteria. Specific requirements and additional exclusions to eligibility are noted in some detailed competition descriptions.

1.) Overlapping funding of more than one Alzheimer's Association grant is not allowed. Investigators who currently have an active Association grant may apply for another award in the last year of their grant if that last year concludes by June 30th before the start of the new funding year on July 1.

2.) Investigators delinquent in reporting: The Alzheimer's Association will not accept new grant applications from currently funded investigators who are delinquent in submitting required reports and other deliverables on active grants. Investigators that have previous Alzheimer’s Association awards closed as 'Incomplete' are not eligible to apply without exception. **This policy will be strictly adhered to with no exceptions.**

3.) The Alzheimer's Association has implemented a new policy to limit the IIRG lifetime awards to two (2) per investigator, however, exceptions will be made for particularly innovative and cutting edge research proposals. Please contact the Alzheimer’s Association at grantsapp@alz.org for eligibility considerations.

4.) Current and past holders of a Zenith Fellows Award will not be considered for another award in the Zenith competition.

5.) Active members of the Association’s Medical and Scientific Advisory Council (MSAC) are ineligible to compete for any research grant. In addition, active MSAC members are ineligible to be included as co-investigator or to receive any financial benefit from an application.

6.) In general, postdoctoral fellows and other junior faculty (below the level of Assistant Professor) are not eligible to apply for Alzheimer's Association grants at this time. For the New Investigators Program, there is one exception: applications for a New Investigator Research Grant (NIRG), New Investigator Research Grant to Promote Diversity (NIRGD) and Mentored New Investigator Research Grant to Promote Diversity (MNIRGD) will be accepted from postdoctoral fellows and other junior faculty members (for example: Instructor, Research Associate Scientist, etc) who can provide a letter of employment verification indicating they will have a full-time faculty position as an Assistant Professor and above by the application deadline. The letter of employment must be uploaded to your application, printed on the hiring institution letterhead, signed by an authorized institutional signature (i.e. Grants and Contracts officer) and must indicate that the position will be activated by the grant award date. If the anticipated position is not activated by the award date for any reason, any offer of funding will be withdrawn. There will be no exceptions. In the event your application is funded, you will be required to provide an official letter on organizational letterhead, signed by an institutional signing official, stating you have a full-time faculty position of an assistant professor and above.
Please note: If the applicant institution does not have an Assistant Professor position, the letter of employment should include sufficient information to allow the Alzheimer's Association staff to evaluate the eligibility of the applicant.

7.) Checks are awarded to the institution, not to the individual principal investigator. The principal investigator or a first degree relative cannot be listed as the signing official or financial officer, or have checks sent to their attention if awarded.

8.) The Alzheimer's Association reserves the right to request additional documentation and/or materials to verify an applicant's status should any of the eligibility requirements be unconfirmed.

Nondiscrimination statement
The Alzheimer's Association values diversity and seeks applicants from diverse backgrounds. The Alzheimer's Association does not discriminate on the basis of race, sex, sexual orientation, religion, color, nationality or ethnic origin, age, disability, or status as a Vietnam Era Veteran or disabled veteran, in the administration of educational policies, programs or activities.

iv. Application Procedures

Submitting a Letter of Intent on-line via proposalCENTRAL
The first step in applying to the Alzheimer's Association for any research grant is to submit a Letter of Intent (LOI) through the proposalCENTRAL on-line application system at http://proposalcentral.altum.com. Applications will not be accepted without an approved LOI. First-time users must register and fill out a Professional Profile in proposalCENTRAL to begin the application process. The Alzheimer's Association requires that all applicants must be registered as a reviewer with the Association to submit a letter of Intent. If you submit a letter of intent/application and are NOT currently registered as a reviewer, you will be automatically added to the Alzheimer's Association reviewer roster. Additionally, it is required that you review at least one grant proposal within your area of expertise, outside the grant competition to which you are applying.

The application materials, including the application format, templates, and instructions, will be available online at proposalCENTRAL after your LOI has been approved.

The LOI and completed application must be submitted by a single Principal Investigator (PI). Additionally, a PI cannot submit an LOI that had been approved or rejected during a previous grant cycle. All LOIs must be approved or rejected in the current grant cycle. Hard copies of the LOI will not be accepted. The purpose of the LOI is to ensure that all applicants are eligible for the competition they are applying to and to assist Association staff in planning for peer reviews. LOIs will not be accepted after the deadline date. No exceptions will be made. The applicant is responsible for adhering to the space limitations (described below) and any decision regarding moving an LOI will be
evaluated based on the submitted information.

**The LOI must include:**
- Name of the principal investigator
- Contact information for the principal investigator (*complete* mailing address, telephone number, fax number and primary institution e-mail address (do not list Yahoo, Google or other g-mail accounts as your primary e-mail)
- Institution involved in the research proposal (*institution/organization name must be in English*)
- Academic rank/position title
- Title of the investigation limited to 75 characters including spaces
- Area of focus of the submission, such as diverse populations, social and behavioral or biological, as outlined in Section II
- Grant competition for which you are applying (Investigator-Initiated Research Grant, New Investigator Research Grant, Zenith Fellows Award, Everyday Technologies for Alzheimer Care Grant, New Investigator Research to Promote Diversity, Mentored New Investigator Research Grant to Promote Diversity, Understanding the Development and Devising Treatments for Alzheimer’s Disease in Individuals with Down Syndrome and U.S.-U.K. Young Investigator Exchange Fellowship).
- Brief project description, including methodology, specific aims of the project, innovation/novelty of the project, and the impact of the Alzheimer’s disease and related dementia field are required. Each section is limited to 1,000 characters and it is the responsibility of the applicant to ensure space limit is adhered.
- Employer (institution) Identification Number (EIN), *must match the EIN on the non-profit documentation*
- A current (within the last five (5) years) non-profit verification for the institution or organization of the applicant; if the documentation is not dated within the last five (5) years, please provide a signed letter on organizational letterhead with authorized signature stating there has been no change in the status.
- Employment verification letter confirming applicant’s academic rank as an Assistant Professor and above (see Eligibility requirements for more information).

**LOI Review Procedures**
All LOIs will be evaluated prior to invitation to submit a full application.

ETAC and the DS/AD will be reviewed for specific adherence to the Program Announcement. Only applications that meet program specific guidelines will be invited to submit full applications.

IIRG LOIs will be reviewed by the Alzheimer’s Association Medical and Scientific Advisory Council with special attention to:

1) Alignment with the research priorities of the Alzheimer’s Association
2) Demonstrable innovation/novelty of the proposed project (especially in the context of the PIs recently funded work)
3) Impact of project on Alzheimer’s disease and related dementia research
4) Established investigators from other fields new to Alzheimer’s and related
5) Evidence of methodological rigor that address the research question(s) being proposed

The Alzheimer’s Association anticipates that a fraction of the IIRG LOI’s -those that best fulfill the above criteria - will result in invitations to submit a full proposal for evaluation. The exact number of IIRG awards made will vary from cycle to cycle based on available funding and current priorities.

Full Grant Application via proposalCENTRAL

Once the on-line LOI is approved and a full proposal is invited, an email notification will be sent from proposalCENTRAL granting access to the on-line application at proposalCENTRAL. The online system must be used to submit a grant application—hard copies of the application will not be accepted.

The full grant application consists of the following (additional attachments might be required, see each individual program for additional requirements):

1. Problem Statement – 1 page
2. Work Plan – 5 pages
3. Available Resources & Budget Justification – 2 pages
4. Biosketch (PI/Co-PI) – 4 pages each

The application materials, including the application format, templates, and instructions, will be available online at proposalCENTRAL after your LOI has been approved.

The PI who submits the LOI must be the same PI who submits the application. LOIs submitted on behalf of other applicants or administrators will result in a rejected application. Once the applicant enters the application system, on-screen instructions will be provided to complete the application process. The application does not need to be completed in one session; a partially completed application can be saved and completed at any time before the deadline. (Important Note: It is imperative that you proofread your application before submission; you will not be allowed to make any changes to the application after the deadline or once applications are under review).

It is the responsibility of the applicant to ensure and verify that:
(1) The application is submitted by the receipt date/time deadline. Once submitted, you will receive a confirmation e-mail from proposalCENTRAL that your application was successfully accepted.
(2) The application is complete and accurate before submission. Only a single copy of an application will be accepted. Signatures are not required at the time of submission, the signature page provided is for your use should your institution/organization require signatures, please do not submit with your application.
v. Multiple and Overlapping Submissions

If an applicant submits proposals to different grant competitions in the same grant cycle, each proposal submitted must address a distinctly different topic. Only one proposal will be funded if scores for multiple submissions fall within the funding range of different grant competitions.

Applicants cannot submit more than one proposal in the same grant competition—even if the proposals cover distinctly different topics.

Applicants may revise and resubmit an application that was previously submitted for an earlier grant cycle; however, a new LOI is required each year. A current LOI corresponding to the application year must accompany each application. Revisions of previous submissions will be treated as new applications. Efforts will be made to provide some continuity in reviews.

Overlapping funding of more than one Alzheimer's Association grant is not allowed. Investigators who are receiving an active Association grant may apply for another award in the last year of their grant if that last year concludes by June 30th before the start of the new funding year, which begins on July 1.

vi. Review Procedures

All proposals are subject to a multiple stage peer-review process carried out with an online system. Certain grant programs have an additional review process as described. In the first stage, applications are reviewed and rated by a minimum of three, and maximum of four, peer scientists with expertise in the proposed area of research. Applicants may include recommended reviewers or may exclude specific reviewers from evaluating their application. Conflict of Interest includes:

(1) The Applicant trained with/ by the reviewer.
(2) Reviewer published with the Applicant in the last four (4) years. This excludes work shop or large consortia (i.e. ADNI, IGAP, etc).
(3) Reviewer has been a co-investigator on a grant application or award with the Applicant in the last four (4) years.
(4) Reviewer has a conceptual difference of opinion with the Applicant that will prevent a fair review.
(5) Reviewer will receive financial benefit from the Applicant receiving an award.

The second stage includes further review and discussion of the scores and comments resulting from the initial review process. This second review is carried out by the Alzheimer’s Association Medical and Scientific Advisory Council (MSAC) to ensure fairness and equity in the initial review procedures and to make funding recommendations to the Association. Members of the MSAC are internationally recognized experts with distinguished careers in Alzheimer’s and related dementias. A complete list of current MSAC members is available on the Alzheimer’s Association Web site (http://www.alz.org/research/funding/advisory_council_alzheimers_association.asp).

This two-stage process is central to our award decisions and is designed to ensure both scientific rigor and fairness in the review of all submitted applications.

**Applicants Please Note:** During peer-review, we are not able to contact reviewers with additional information to update, change or adjust your application such as recent publication, published manuscripts, new data etc.

If you are interested in being considered a reviewer for the Alzheimer’s Association International Research Grant Program, please submit your CV to grantsapp@alz.org.

**General Requirements**
- You must be a recognized authority in your field.
- You must be dedicated to conducting high-quality, fair reviews.
- You must be able to articulate your views succinctly, engage in productive exchanges and actively participate in the on-line discussion of applications.

**vii. Appeals of Scientific Peer Review**

To maintain a fair and rigorous review system, the Alzheimer’s Association has established a process for appeal of funding decisions. An appeal is intended to address extraordinary circumstances. Appropriate reasons for initiating an appeal might include:
- Evidence that a reviewer has an undeclared conflict of interest
- An egregious error or misunderstanding in the review process
- Active malfeasance or demonstrable lack of due diligence

The appeal process is not intended to provide a mechanism for routine protest of failure to receive a grant. Disparities in peer reviewers’ enthusiasm for a proposal and the scores they assign are nearly always considered part of the normal variation in human judgment. The reality is that the Alzheimer’s Association International Research Grant Program is extremely competitive and is limited by availability of funds. In recent grant cycles, 10 to 11 percent of proposals have been awarded grants, although about twice that number fall into the “fundable” category based on overall score.
If an applicant believes an extraordinary circumstance has contributed to failure to receive funding, the principal investigator may send as a Word document, a two-page, double-spaced formal letter of appeal to grantsappeals@alz.org – supporting documents must be submitted in PDF. **Appeals must be submitted within two weeks from the date your application outcome notification is sent to be considered by the Alzheimer's Association.** Notification of action on the appeal will be made via email, usually within 90 days of the appeal deadline.

viii. Animal and Human Subject Assurances

Animal welfare and human subject certifications are not required at the time of application. Investigators have up to 90 days after receipt of their award notification to submit these documents. **However, the Alzheimer’s Association encourages investigators to initiate their certification applications on a schedule that recognizes that rDNA, IRB/IACUC approval at many institutions can take more than 90 days.** The Association accepts only certifications that apply specifically to the funded project and must include the name of the awardee. An award letter will not be issued unless the appropriate certifications are in place and include the name of the awardee within the 90 days from award notification.

ix. Reporting Requirements

**Interim and final scientific progress reports**

Investigators receiving Alzheimer's Association research grants are required to file annual progress reports.
- An Interim Scientific Progress Report must be filed at the end of each reporting period as long as the grant remains active.
- A Final Scientific Progress Report **must** be filed within 90 days of the grant's end date.

**Financial progress report**

Annual financial progress reports must be filed at the end of each reporting period while the grant remains active and within 90 days after the grant ends. These reports must be submitted **ELECTRONICALLY** by the signing official or someone else with financial authority in the Office of Research and Sponsored Programs at the recipient's institution.

For questions about reporting requirements or these forms, please contact Mary Grilli, (mary.grilli@alz.org ) or Rita Freeman (rita.freeman@alz.org), the Alzheimer's Association post-award grant specialists.

**Publications, Presentation and Abstracts**

Electronic copies of publications, presentations and abstracts that report research supported by funds from the Alzheimer’s Association must be submitted **ELECTRONICALLY** at the time of publication. These copies will become part of the official
file of the grant and will be provided to the Communications Division of the Alzheimer's Association to assist in the efforts to further inform the public about the International Research Grant Program of the Association.

x. Contact Information
This program announcement is posted on the website of the Alzheimer's Association at http://www.alz.org/research/alzheimers_grants/overview.asp For additional information, send inquiries to grantsapp@alz.org or call 1.312.335.5747 or 1.312.335.5862.
IV. SPECIFIC GRANT COMPETITIONS

i. U.S.-U.K. Young Investigator Exchange Fellowship

(Jointly sponsored by the Alzheimer’s Association [U.S.] and Alzheimer’s Research UK [UK])

**Competition objectives:** The U.S.-U.K. Young Investigator Exchange Fellowship provides a three-year grant to fund quality scientific research into the causes, diagnosis and treatment of Alzheimer’s disease. The fellowship aims to address important research questions as well as to help and encourage promising scientists as they establish their careers within Alzheimer’s research internationally. It is also hoped that by supporting meaningful scientific collaboration between scientists in the United Kingdom and the United States, there will be mutual benefit to the research output of both countries. In addition to an exchange of ideas, an important aim is to promote the learning of new experimental techniques and methodologies.

The purpose of this fellowship is to provide new investigators with funding that will allow them to develop preliminary or pilot data, to test procedures and to develop hypotheses on an international level. The intent is to support international early-career development that will lay the groundwork for future research grant applications to other international funding agencies and groups. Applications submitted to the U.S.-U.K. Young Investigator Exchange Fellowship must target defined areas of focus in the Alzheimer’s Association 2013 program announcement to be considered responsive to the program announcement. The research aims and priorities of the Alzheimer’s Research UK are available on the organizations website.

The U.S.-U.K. Young Investigator Exchange Fellowship requires the proposed project be aligned with a main supervisor and institution that will commit to allow the applicant to fulfill the exchange component of the fellowship if awarded. Central to the proposed arrangement is a co-supervisor from the second country who is able to guarantee provision for the agreed duration of the visit, which can be from one to twelve months. The co-supervisor’s institution must agree to confer visiting fellow status to the awardee to ensure the fellow is allowed access to resources and services at the visiting institution.

**Supervisor statement required:** The Fellowship requires that supervisors be experienced in conducting Alzheimer’s and related dementia research. The application must include two statements from the selected institutions, one from each country, with information on the supervisor’s research qualifications and a commitment to accept the fellow in their institution for the proposed duration of the fellowship exchange. The statement must also include information describing how the supervisor’s research is relevant to the applicant’s research plan and the nature and extent of supervision that he/she will provide during the period of the award. The supervisors must agree to provide end-of-term evaluations of the applicant’s progress for the duration of the award, as required for the yearly progress report. *The supervisor’s statement is limited to one page from each country supervisor (US and UK).*
Application procedures: APPLICANTS BASED IN THE UNITED STATES. MUST APPLY TO THE ALZHEIMER’S ASSOCIATION, AND THOSE BASED IN THE UNITED KINGDOM MUST APPLY TO THE ALZHEIMER’S RESEARCH UK. THE ELIGIBILITY CRITERIA, APPLICATION AND REVIEW PROCEDURES ARE BROADLY SIMILAR BETWEEN THE TWO ORGANIZATIONS BUT ARE KEPT SEPARATE FOR EASE OF ADMINISTRATION AND TO FOLLOW CURRENT PRACTICES.

For Alzheimer’s Research UK application procedures please go to: http://www.alzheimersresearchuk.org/how-to-apply-for-a-grant/

U.S. APPLICANTS TO THE ALZHEIMER’S ASSOCIATION:

Submitting a Letter of Intent (LOI) on-line via proposalCENTRAL
The first step in applying is to submit a Letter of Intent (LOI) through the proposalCENTRAL on-line application system at http://proposalcentral.altum.com. First-time users must register and fill out a professional profile in proposalCENTRAL to begin the application process.

The LOI and completed application must be submitted by the Young Exchange Fellow (PI). In the LOI, the PI must name and describe the relationship with the faculty members who will perform the supervisory duties. The purpose of the LOI is to ensure that all applicants are eligible for the competition to which they are applying and to assist in planning for peer reviews. LOIs will not be accepted after the deadline date. No exceptions will be made.

The LOI must include:
• Name of the principal investigator
• Contact information for the principal investigator (complete mailing address, telephone number, fax number and primary institution e-mail address, institution/organization[s] involved in the research proposal in both countries [institution/organization name must be in English])
• Academic rank/position title
• Title of the fellowship project proposed limited to 75 characters including spaces
• Area of focus of the submission, such as diverse populations, social and behavioral or biological, as outlined in Section II
• Brief rationale for the proposal limited to 3,000 characters including spaces. The project description must include enough information to allow evaluation of the scientific merit, innovation, and quality of the project being proposed. It is the responsibility of the applicant to ensure space limit is adhered to.
• Employer (institution) Identification Number (EIN), must match the EIN on the non-profit documentation
• A current (within the last five (5) years) non-profit verification for the institution or organization of the applicant; if the documentation is not dated within the last five (5) years, please provide a signed letter on organizational letterhead with authorized signature stating there has been no change in the status
• Employment verification letter confirming applicant’s academic/rank as an Assistant
Professor and above (see Eligibility requirements for more information).

**On-line application via proposalCENTRAL**

Once the on-line LOI is approved, an e-mail notification will be sent from proposalCENTRAL granting access to the on-line application at proposalCENTRAL. **The online system must be used to submit the application**—hard copies of the application will not be accepted.

**The PI who submits the LOI must be the same PI who submits the application.** LOIs submitted on behalf of other applicants or administrators will result in a rejected application. Once the applicant enters the application system, on-screen instructions will be provided to complete the application process. The application does not need to be completed in one session; a partially completed application can be saved and completed at any time before the deadline.

**It is the responsibility of the applicant to ensure and verify that:**

1. The application is submitted by the receipt date/time deadline. Once submitted, you will receive a confirmation e-mail from proposalCENTRAL that your application was submitted.
2. The application is complete and correct before submission. Only a single copy of an application will be accepted. **Signatures are not required at the time of submission, the signature page provided is for your use should your institution/organization require signatures, please do not submit with your application.**
3. Revisions, additional materials, letters of collaboration and/or reference, manuscripts, appendices, etc., are not allowed and if attached, will be removed from your application.

**Funding and award period:** The Alzheimer’s Association anticipates funding up to one US award under this competition.

**For U.S. applications to the Alzheimer’s Association:** Each total award is limited to $300,000 USD. A total of $260,000 USD will be awarded for costs related to the proposed research for up to three years (direct and indirect costs). Requests in any given year may not exceed $90,000 USD (direct and indirect). Indirect costs are capped at 10 percent (rent for laboratory/office space is expected to be covered by indirect costs paid to the institution). The PI must commit to a 75 percent effort toward the proposed project over the funding period.

The remaining funds, $40,000 USD, will be awarded to the supervisors; $20,000 USD will be awarded to each supervisor upon the successful completion of the duration of the fellowship in the respective country. These additional funds are to be applied to sustaining ongoing research in the Alzheimer’s field and will be awarded through the supervisory host institutions.

**For U.K. applications to the Alzheimer’s Research UK:** Each total award is limited to £160,000. This will comprise a salary for the Fellow, separate research consumables for the U.K. supervisor’s laboratory and the U.S. laboratory, as well as transatlantic travel costs. A full breakdown of these individual costs, with justifications, is required.
Eligibility: This grant competition is restricted to investigators based in the United States or United Kingdom who have less than 10 years of research experience after receipt of their terminal degree. Postdoctoral fellows are eligible to apply. The 10-year period applies to the date of submission of the grant application. Adjustments for career interruptions can be made. These would include, but are not limited to, family leave, military service and major illness or injury. It is the responsibility of the applicant to point out and document such interruptions.

Ineligibility: The Alzheimer’s Association will not accept new grant applications from currently funded investigators who are delinquent in submitting required reports and other deliverables on active grants. Investigators that have previous Alzheimer’s Association awards closed as ‘Incomplete’ are not eligible to apply without exception. This policy will be strictly adhered to with no exceptions.

Newly independent investigators currently funded through other fellowship awards (i.e., federal or other) are ineligible to apply for this award.

Receipt of application deadlines
U.S. APPLICANTS TO THE ALZHEIMER’S ASSOCIATION:

Deadlines and award dates: LOIs must be received by 5:00 PM EASTERN STANDARD TIME, February 1, 2013. LOIs will not be accepted after this date. No exceptions will be made.

Applications must be received by 5:00 PM EASTERN STANDARD TIME, April 1, 2013.

Scientific and technical review will be conducted from March through June 2013. The second-level review by the Alzheimer’s Association and Alzheimer’s Research UK will be conducted in June 2013. We anticipate funding one award by August 30, 2013.

Mechanism of Award, Reporting Requirements and Allowable Costs: The mechanism of the award is the individual research grant. The maximum allowable duration is three years. Annual scientific progress and financial reports are required. Continuation of the grant over the awarded duration is contingent upon the timely receipt of scientific progress and financial reports as well as supervisors’ reports outlining progress.

Budget: A “budget summary” for the proposed research project is required and must be submitted with the application and within the allowable page limits. For U.S. applicants to the Alzheimer’s Association, however, if the application is to be awarded, a more detailed budget will be required and must be approved before the disbursement of funds.

Allowable costs under this award include: Purchase and care of laboratory animals, small pieces of laboratory equipment and laboratory supplies, computer equipment if used
strictly for data collection and salary for the PI, scientific (including post-doctoral fellows) and technical staff (including laboratory technicians and administrative support staff members whose work directly relates to the funded project). It is required that most (Alzheimer's Association)/ all (Alzheimer’s Research UK) of the funds awarded under this program be used for direct research support.

Travel and housing costs for the duration of the country exchange are allowed. Travel for scientific conferences (up to $1,000 USD per year) is also allowed. Total travel/housing costs allowed for the duration of the fellowship is $5,000 USD. Additionally, a budget detailing these costs must be included with the application.

**Direct Costs not allowed under this award include:**
- Tuition
- Computer hardware or software for investigators
- Rent for laboratory/office space
- Construction or renovation costs

**Review procedures:** All proposals are subject to a two-stage peer-review process carried out with an on-line system. In the first stage, applications are reviewed and rated by a minimum of three, maximum of four, peer scientists with expertise in the proposed area of research. The second stage includes further review and discussion of the scores and comments resulting from the initial review process. This second review is carried out by the Medical and Scientific Advisory Council of the Alzheimer's Association and the Scientific Advisory Board of the Alzheimer's Research UK to ensure fairness and equity in the initial review procedures and to make final funding recommendations. This two-stage process is central to award decisions and is designed to ensure both scientific rigor and fairness in the review of all applications. In line with other ART-funded fellowships, an interview will be required for U.K. applicants shortlisted from the second review stage.

**Animal and human subject assurances:** Animal welfare and human subject certifications are not required at the time of application submission; investigators have up to 90 days after receipt of their award notification to submit these documents. However, the Alzheimer's Association and the Alzheimer’s Research UK encourage investigators to initiate their certification applications on a schedule that recognizes that approval of rDNA, IRB/IACUC (U.S.) or Home Office or Ethics Committee approval at many institutions can take more than 90 days. The Association accepts only certifications that apply specifically to the funded project. An award letter will not be issued unless the appropriate certifications are in place within the 90-day window.

**Contact information**
This program announcement is posted in full-text and PDF formats on the following websites:

http://www.alz.org/research/alzheimers_grants/overview.asp
http://www.alzheimersresearchuk.org/
For additional information, you may contact the Alzheimer's Association: 
grantsapp@alz.org or call 1.312.335.5747 or 1.312.335.5862.

The Alzheimer's Research UK: Research@alzheimersresearchuk.org or phone at +01223 843899
**ii. New Investigator Research Grant (NIRG)**

**Competition objectives:** The competition, formerly known as the Pilot Research Grant Program, has become the New Investigator Research Grant Program. This change is designed to reinforce the historical emphasis of this competition—to fund investigators who are less than 10 years past their doctoral degree. The purpose of this program is to provide newly independent investigators with funding that will allow them to develop preliminary or pilot data, to test procedures and to develop hypotheses. The intent is to support early-career development that will lay the groundwork for future research grant applications to the National Institutes of Health, National Science Foundation and other funding agencies and groups, including future proposals to the Alzheimer's Association. All NIRG applications must target defined areas of focus for fiscal year 2013 to be considered responsive to the program announcement (see Section II).

The Alzheimer's Association recognizes the need to increase the number of scientists from underrepresented groups in the research enterprise. Young scientists from these groups are encouraged to apply.

**Funding and award period:** The Association anticipates funding up to 25 awards under this competition. Each total award is limited to $100,000 (direct and indirect costs) for up to two years. Requests in any given year may not exceed $60,000 (direct and indirect costs). Indirect costs are capped at 10 percent (rent for laboratory/office space is expected to be covered by indirect costs paid to the institution).

**Eligibility:** Applicants must be Assistant Professors or above at their respective institution. For individuals who are at non-academic institutions, please contact the Alzheimer's Association at grantsapp@alz.org to verify your eligibility. Eligibility to apply for this grant competition is restricted to investigators who have less than 10 years of research experience after receipt of their terminal degree. The 10-year period applies to the date of submission of the grant application. Adjustments for career interruptions can be made. Applicant must contact the Alzheimer's Association regarding any possible exception (grantsapp@alz.org). These would include, but are not limited to, family leave, military service, and major illness or injury. It is the responsibility of the applicant to point out and document such interruptions within their application.

In general, postdoctoral fellows and junior faculty (below Assistant Professor) are not eligible to apply for Alzheimer's Association grants at this time (except for the US-UK Fellowship). For the New Investigators Program, there is one exception: applications for a New Investigator Research Grant (NIRG), New Investigator Research Grant to Promote Diversity (NIRGD) and Mentored New Investigator Research Grant to Promote Diversity (MNIRGD) will be accepted from postdoctoral fellows and other junior faculty members (for example: Instructor, Research Associate Scientist, etc.) who can provide a letter of employment verification indicating they will have a full-time faculty position of an Assistant Professor and above by the application deadline.
The letter of employment must be uploaded to your application, printed on the hiring institution letterhead, signed by an authorized institutional signature (i.e. Grants and Contracts officer) and must indicate that the position will be activated by the grant award date. If the anticipated position is not activated by the award date for any reason, any offer of funding will be withdrawn. There will be no exceptions. In the event your application is funded, you will be required to provide an official letter on organizational letterhead, signed by an institutional signing official, stating you have a full-time faculty position of an assistant professor and above.

**Please note:** If the applicant institution does not have an Assistant Professor position, the letter of employment should include sufficient information to allow the Alzheimer’s Association staff to evaluate the eligibility of the applicant.

**Ineligibility:** The Alzheimer's Association will not accept new grant applications from currently funded investigators who are delinquent in submitting required reports and other deliverables on active grants. Investigators that have previous Alzheimer’s Association awards closed as 'Incomplete' are not eligible to apply without exception. **This policy will be strictly adhered to with no exceptions.**

**Deadlines and award dates:** Letters of Intent must be received by 5:00 PM EASTERN STANDARD TIME, February 1, 2013. Letters of Intent will not be accepted after this date. No exceptions will be made.

Applications must be received by 5:00 PM EASTERN STANDARD TIME, April 1, 2013.

Scientific and technical review will be conducted from March through June 2013. The second-level review by the Medical and Scientific Advisory Council will be conducted during June 2013. Funding will be awarded by August 30, 2013.

**Mechanism of Award, Reporting Requirements and Allowable Costs:** The mechanism of the award is the individual research grant. The maximum allowable duration is two years. Annual scientific progress and financial reports are required. **Continuation of the grant over the awarded duration is contingent upon the timely receipt of scientific progress and financial reports.**

**Budget:** A “budget summary” for the proposed research project is required and must be submitted with the application and within the allowable page limits. However, if the application is to be awarded, a more detailed budget will be required and must be approved before the disbursement of funds. **Your budget must not exceed the maximum amount of the award, $100,000 or $60,000 per year.**

**Allowable costs under this award:** It is required that most of the funds awarded under this program be used for direct research support.
Other allowable costs include:
- Purchase and care of laboratory animals
- Small pieces of laboratory equipment and laboratory supplies
- Computer software if used strictly for data collection
- Salary for the principal investigator, scientific (including postdoctoral fellows) and technical staff (including laboratory technicians and administrative support directly related to the funded grant)
- Support for travel to scientific and professional meetings not to exceed $1,000 per year

Direct Costs not allowed under this award include:
- Computer hardware or standard software (e.g. Microsoft Office)
- Construction or renovation costs
- Tuition
- Rent for laboratory/office space

For more information: Contact grantsapp@alz.org or call 1.312.335-5747 or 1.312.335.5862.
iii. Investigator-Initiated Research Grant (IIRG)

**Competition objectives:** The Investigator-Initiated Research Grant forms the backbone of the Alzheimer's Association International Research Grant Program. To be considered responsive, the research grant application must address a question or questions relevant to the 2013 areas of focus (see Section II) or a compelling issue in Alzheimer research pertinent to the applicant’s special interest or expertise. The IIRG program is the largest grant program (by applications) of the Association’s International Research Grant Program. The awards made through the IIRG mechanism are significantly competitive.

The Alzheimer's Association recognizes the need to increase the number of scientists from underrepresented groups in the research enterprise. Researchers from these groups are encouraged to apply. Note: The Senator Mark Hatfield Award for Clinical Research in Alzheimer’s Disease is no longer offered as a separate program. The highest ranking clinical or social behavioral IIRG will be funded under this award.

**Funding and award period:** The Association anticipates funding up to 20 awards under the IIRG program. Each total award is limited to $240,000 (direct and indirect costs) for up to three years. Requests in any given year may not exceed $100,000 (direct and indirect). Indirect costs are capped at 10 percent (rent for laboratory/office space is expected to be covered by indirect costs paid to the institution).

**Eligibility:** Researchers with full-time staff or faculty appointments (Assistant Professor and above) are encouraged to apply. IIRG applications from post-doctoral candidates will not be accepted.

**Please note:** If the applicant institution does not have an Assistant Professor position, the letter of employment should include sufficient information to allow the Alzheimer’s Association staff to evaluate the eligibility of the applicant.

**Ineligibility:** The Alzheimer's Association will not accept new grant applications from currently funded investigators who are delinquent in submitting required reports and other deliverables on active grants. Investigators that have previous Alzheimer’s Association awards closed as 'Incomplete' are not eligible to apply without exception. This policy will be strictly adhered to with no exceptions.

**PLEASE NOTE:** The Alzheimer’s Association has implemented a new policy to limit the IIRG lifetime awards to two (2) per investigator, however, exceptions will be made for particularly innovative and cutting edge research proposals, please contact the Alzheimer’s Association at grantsapp@alz.org for eligibility consideration.

**LOI Review Procedures for IIRG**
IIRG LOIs will be reviewed by the Alzheimer’s Association Medical and Scientific Advisory Council with special attention to:

1) Alignment with the research priorities of the Alzheimer’s Association.
2) Demonstrable innovation/novelty of the proposed project (especially in the context of the PIs recently funded work).
3) Impact of project on Alzheimer’s disease and related dementia research.
4) Established investigators from other fields new to Alzheimer’s and related dementia research.
5) Evidence of methodological rigor that address the research question(s) being proposed.

The Alzheimer’s Association anticipates that a fraction of the LOI’s - those that best fulfill the above criteria - will result in invitations to submit a full proposal for evaluation. The exact number of IIRG awards made will vary from cycle to cycle based on available funding and current priorities.

**Deadlines and award dates:** Letters of Intent must be received by 5:00 PM EASTERN STANDARD TIME, February 1, 2013. Letters of Intent will not be accepted after this date. No exceptions will be made.

Applications must be received by 5:00 PM EASTERN STANDARD TIME, April 1, 2013.

Scientific and technical review will be conducted from March through June 2013. The second-level review by the Medical and Scientific Advisory Council will be conducted during June 2013. Funding will be awarded by August 30, 2013.

**Mechanism of award and reporting requirements:** The mechanism of award is the individual research grant. The maximum duration of the award is three years. Annual scientific progress and financial reports are required. Continuation of the grant over the awarded duration is contingent upon the timely submission of interim scientific progress and financial reports.

**Budget:** A "budget summary" for the proposed research project is required and must be submitted with the application and within the allowable page limits. However, if the application is to be awarded, a more detailed budget will be required and must be approved before the disbursement of funds. Your budget must not exceed the maximum amount of the award, $240,000 or $100,000 per year.

**Allowable costs under this award:**
It is required that most of the funds awarded under this program be used for direct research support.

**Allowable costs under this award include:**
- Purchase and care of laboratory animals
- Small pieces of laboratory equipment and laboratory supplies
- Computer software if used strictly for data collection
- Salary for the principal investigator, scientific (including post-doctoral fellows) and technical staff (including laboratory technicians and administrative support related
directly to the funded project

- Travel to scientific and professional meetings, not to exceed $1,000 per year

**Direct Costs not allowed under this award include:**

- Tuition
- Computer hardware or standard software (e.g., Microsoft Office) for investigators
- Rent for laboratory/office space
- Construction or renovation costs

*For more information:* Contact grantsapp@alz.org or call 1.312.335-5747 or 1.312.335.5862
iv. The Zenith Fellows Award Program (Zenith)

**Competition objectives:** The Zenith Fellows award was initiated in 1991 to provide a vehicle for research support for donors with a substantial personal commitment to the advancement of Alzheimer's disease research. The awards are made possible by the generosity of a group of individuals and organizations (Zenith Society) that have each committed $1 million to the Alzheimer's Association for support of the program.

The objective of the 2013 Zenith Fellows Awards competition is to provide major support for investigators who have:
1) Contributed significantly to the field of Alzheimer's disease research or
2) Made significant contributions to other areas of science and are now beginning to focus more directly on problems related to Alzheimer's disease and
3) Are likely to make substantial contributions in the future.

The proposed research must be “on the cutting edge” of basic science or biomedical research and thus may not conform to current conventional scientific wisdom or may challenge the prevailing orthodoxy. The proposed research should address fundamental problems related to early detection, etiology, pathogenesis, treatment and/or prevention of Alzheimer’s disease.

In addition to the two tier peer-review process described in Section III-vi (Review Procedures), the Zenith Fellows Award includes an additional level of review that engages the Alzheimer’s Association Zenith Society to select final award recipients based on project topics in which they are most interested. Many of the Zenith Society members have family and friends affected by Alzheimer's disease and have a deep commitment to advancing the research.

The Alzheimer's Association recognizes the need to increase the number of scientists from underrepresented groups in the research enterprise. Researchers from these groups are encouraged to apply.

**Funding and award period:** We anticipate funding up to four awards under this competition. Each award is limited to $450,000 (direct and indirect costs) for three years. Requests in any given year may not exceed $250,000 (direct and indirect costs). Indirect costs are capped at 10 percent (rent for laboratory/office space is expected to be covered by indirect costs paid to the institution).

**Eligibility:** Only established independent investigators are eligible as evidenced by:
1) Academic appointment;
2) Major, peer-reviewed, external multi-year grant support on which the applicant is the principal investigator (PI);
3) Independent laboratory operation; and
4) Quality and independence of publication record.
Only applicants who have already contributed significantly to the field of Alzheimer’s disease research or have the clear likelihood of making significant contributions will be seriously considered. Previous recipients of Zenith Awards, Medical and Scientific Advisory Council members and members of the National Board of the Alzheimer’s Association are ineligible to apply.

**Ineligibility:** The Alzheimer’s Association will not accept new grant applications from currently funded investigators who are delinquent in submitting required reports and other deliverables on active grants. Investigators that have previous Alzheimer’s Association awards closed as ‘Incomplete’ are not eligible to apply without exception. This policy will be strictly adhered to with no exceptions.

**Deadlines and award dates:** Letters of Intent must be received by 5:00 PM EASTERN STANDARD TIME, February 1, 2013. Letters of Intent will not be accepted after the receipt date. No exceptions will be made.

Applications must be received by 5:00 PM EASTERN STANDARD TIME, April 1, 2013.

Scientific and technical review will be conducted from March through June 2013. The second-level review by the Medical and Scientific Advisory Council will be conducted in June 2013. The Zenith Society review will occur late October, 2013. Funding will be awarded by November 15, 2013.

**Mechanism of award, reporting requirements and allowable costs:** The mechanism of award is the individual research grant. The maximum duration of award is three years—there is no program for competing continuation applications (3-year) funding as was the case in the early years of the Zenith program. Annual scientific progress and financial reports are required. Continuation of the grant over the awarded duration is contingent upon receipt of scientific progress and financial reports.

**Budget:** A “budget summary” for the proposed research project is required and must be submitted with the application and within the allowable page limits. However, if the application is to be awarded, a more detailed budget will be required and must be approved before the disbursement of funds. Your budget must not exceed the maximum amount of the award, $450,000 or $250,000 per year.

Allowable costs under this award:
It is required that most of the funds awarded under this program be used for direct research support.

Other allowable costs include:
- Purchase and care of laboratory animals
- Small pieces of laboratory equipment and laboratory supplies
- Computer software if used strictly for data collection
- Salary for the principal investigator, scientific (including postdoctoral fellows) and
technical staff (including laboratory technicians and modest administrative support)

- Support for travel to scientific and professional meetings, not to exceed $1,000 per year

**Direct Costs not allowed under this award include:**

- Computer hardware or standard software (e.g., Microsoft Office)
- Construction or renovation costs
- Tuition
- Rent for laboratory/office space

*For more information:* Contact grantsapp@alz.org or call 1.312.335-5747 or 1.312.335.5862.
v. Everyday Technologies for Alzheimer Care (ETAC) Grants

Established in 2003 as a cooperative research initiative between the Alzheimer’s Association and Intel Corporation, the Alzheimer’s Association seeks proposals for the Everyday Technologies for Alzheimer Care (ETAC) program focused on personalized diagnostics, preventive tools and interventions for adults coping with the spectrum of cognitive aging and neurodegenerative disease, particularly Alzheimer’s disease. Submissions should be for groundbreaking studies on emerging information and communication technologies (ICTs) as well as their clinical and social implications. Strongest consideration will be given to novel innovative ideas rather than more evolutionary incremental research. Originality of the study is more important than extensive evidence for why it is a logical next step in a research program.

ETAC is designed to support exploratory multidisciplinary research that would not typically be funded by national health and science granting foundations. Minor iterations in testing plans or populations will not be considered for funding. Collaboration between social science/medical/public health and computer science/engineering researchers is valued. Mobile computing, high bandwidth sensing, robotics, imaging, face recognition, natural language processing, statistical modeling and a host of other technology advances allow unprecedented opportunities to study disease progression and therapeutic strategies in the context of everyday life. ETAC supports research that integrates such emerging technology capabilities with leading directions in behavioral science and biomedical research. Grants that merely create Internet-based versions of existing services or paper tools will not be considered. Submissions must be original ideas, not continuations of previously funded ETAC projects. Please see the link below for examples of studies that have been funded by ETAC.

The following list of research topics is not exhaustive; researcher-initiated proposals are invited in any of these or other topic areas.

1. Behavioral assessment for early detection: What kinds of behavioral data can be captured through everyday devices for the early detection of Alzheimer’s? Are there key speech/conversational features that today’s or tomorrow’s cell phones could help to analyze for early detection? Are there gait and other movement patterns that home camera systems could capture to provide early warnings of potential cognitive conditions? How might various forms of dementia be differentiated by the analysis of such video and audio data? How can data from sensors, imaging and traditional clinical measures be triangulated to enhance assessment?

2. Prevention: How can technologies foster the cognitive resilience and reserve that may protect against dementia? How can innovative systems provide the cognitive, social and physical engagement (throughout the lifespan) that may prevent or delay Alzheimer’s disease and related disorders? How can such systems motivate lifestyle changes and help people manage health conditions to limit vulnerability to dementia?

3. Safety monitoring and support for caregivers: How can new technologies
augment and improve upon existing safety monitoring systems? What acoustic and visual cues can be relied upon to help identify and triage individuals' needs? For example, how can advances in high bandwidth sensing and statistical inferencing help detect and prevent falls?

4. Supporting independent function in daily life: Early-stage products based on wireless sensor networks have been developed to support activities of daily living—how can additional processing capabilities improve upon these systems? What analytic tools could identify changes in individuals' typical patterns and provide customized assistance?

5. Social support through face or audio recognition: How might speech, face and voice recognition technologies provide diagnosed individuals with real-time, just-in-time feedback reminders and support for social interactions? Can these technologies help someone with memory loss to keep track of past conversations, topics and social encounters in a way that does not require great effort or technological expertise? How can mobile technologies (for example, phones, hearing aids and watches) serve as social assistants?

6. Detecting moments and patterns of lucidity: Given the sometimes weekly, daily or even hourly variability of function of many people with Alzheimer's, how can we identify the optimal times for a individual to conduct complex household tasks like bill paying or self-medication? How can technologies help to find opportune moments for interacting with someone with Alzheimer's?

7. Privacy and security concerns of Alzheimer's families: What privacy and security concerns do families and individuals with Alzheimer's have regarding home monitoring? How do these concerns differ according to generational, regional, cultural, gender and other differences? How can technology help people negotiate the sharing of health-related information?

ETAC applicants are strongly encouraged to consider partnerships with chapters of the Alzheimer’s Association when it is advantageous to the goals of the project.

**Past Awarded ETAC Proposals:**
http://www.alz.org/research/alzheimers_grants/funded_studies.asp

The Alzheimer’s Association recognizes the need to increase the number of scientists from underrepresented groups in the research enterprise. Researchers from these groups are encouraged to apply.

**Background research from Intel Corporation**
The following paper from Intel Corporation presents preliminary findings of Intel's Proactive Health research. The authors report on identified needs of cognitively impaired individuals and their caregivers that may be addressed through home computing technologies.
**Funding and award period:** The Association anticipates funding 2 awards under this program. Each total award is limited to $200,000 (direct and indirect costs) for up to three years. Requests in any given year may not exceed $90,000 (direct and indirect costs). Indirect costs are capped at 10 percent (rent for laboratory/office space is expected to be covered by indirect costs paid to the institution).

**Eligibility:** Researchers with full-time staff or faculty appointments (Assistant Professor and above) are encouraged to apply. ETAC applications from post-doctoral candidates will not be accepted.

**Please note:** If the applicant institution does not have an Assistant Professor position, the letter of employment should include sufficient information to allow the Alzheimer’s Association staff to evaluate the eligibility of the applicant.

**Ineligibility:** The Alzheimer’s Association will not accept new grant applications from currently funded investigators who are delinquent in submitting required reports and other deliverables on active grants. Investigators that have previous Alzheimer’s Association awards closed as ‘Incomplete’ are not eligible to apply without exception. This policy will be strictly adhered to with no exceptions.

**Deadlines and award dates:** Letters of Intent (LOIs) must be received by 5:00 PM EASTERN STANDARD TIME, February 1, 2013. LOIs will not be accepted after this date. No exceptions will be made.

ETAC LOIs are reviewed for adherence to the Program Announcement.

Applications must be received by 5:00 PM EASTERN STANDARD TIME, April 1, 2013.

Scientific and technical review will be conducted from March through June 2013. The second-level review by the ETAC Review Board and Medical and Scientific Advisory Council will be conducted during June 2013. Funding will be awarded by August 30, 2013.

**Mechanism of award, reporting requirements and allowable costs:** The mechanism of the award is the individual research grant. The maximum allowable duration is three years. Annual scientific progress and financial reports are required. **Continuation of the grant over the awarded duration is contingent upon the timely receipt of scientific progress and financial reports.**

**Budget:** A "budget summary" for the proposed research project is required and must be submitted with the application and within the allowable page limits. However, if the
application is to be awarded, a more detailed budget will be required and must be approved before the disbursement of funds. **Your budget must not exceed the maximum amount of the award, $200,000 or $90,000 per year.**

**Allowable costs under this award:**
It is required that most of the funds awarded under this program be used for direct research support.

**Other allowable costs include:**
- Small pieces of laboratory equipment and laboratory supplies
- Salary for the principal investigator, scientific (including postdoctoral fellows) and technical staff (including laboratory technicians and administrative support related directly to the funded project)
- Purchase and care of laboratory animals
- Purchase of a computer
- Support for travel to scientific and professional meetings, not to exceed $1,000 per year

**Direct Costs not allowed under this award include:**
- Tuition
- Rent for laboratory/office space
- Construction or renovation costs

**Multiple and Overlapping Submissions:** If separate proposals are submitted to different grant competitions, each proposal submitted must be distinctly different. Only one proposal will be funded if scores for multiple submissions fall within the funding ranges of different grant categories.

Applicants **cannot** submit two proposals in the ETAC grant competition—even if the proposals are distinctly different.

**Overlap Funding:** Overlapping funding of more than one Alzheimer's Association grant is not allowed. Investigators who have an active Alzheimer's Association or Intel grant may apply for another award that is clearly new work rather than an extension of their current grant. The new research proposal can be proposed in the last year of their grant if that last year concludes by the time the new funding year begins on July 1.

Current holders of awards for support of research related to the project described in the ETAC LOI (whether these awards arise from federal or private sources, but especially if awards arise from other Alzheimer's Association or Intel program resources) are obliged to provide sufficient detail (e.g., budgetary detail, specific aims) so that it is clear that the LOI represents novel research. An LOI for work that might be viewed as an extension of an existing line of (funded) research should clearly but briefly distinguish goals and progress for the current funding period from goals proposed in the LOI for the next period. The responsibility lies with the applicant to include rationale to dispel any notion of "double dipping" or "re-dipping.” As with most grantmaking programs, ETAC recognizes that
scientific overlap may occur across funded grants; as is also usually the case, budgetary overlap is not permitted. Coincidentally awarded grants must be negotiated in good faith according to this principle.

For more information: Contact grantsapp@alz.org or call 1.312.335-5747 or 1.312.335-5862.
vi. New Investigator Research Grant to Promote Diversity (NIRGD)

**Competition objectives:** The New Investigator Research Grant to Promote Diversity in Alzheimer’s research is a two-year award to investigators who are currently underrepresented at academic institutions in Alzheimer’s or related dementias research. The objective of this award is to increase the number of highly trained investigators from diverse backgrounds whose basic, clinical and social/behavioral research interests are grounded in the advanced methods and experimental approaches needed to solve problems related to Alzheimer’s and related dementias in general and in health disparities populations. The Alzheimer’s Association recognizes the need to increase the number of underrepresented scientists participating in biomedical and behavioral research. The Association anticipates that by providing these research opportunities, the number of underrepresented scientists entering and remaining in biomedical research careers in Alzheimer’s disease will increase.

The purpose of this program is to provide underrepresented new investigators with funding that will allow them to develop preliminary or pilot data, to test procedures, and to develop hypotheses. The intent is to support early-career development that will lay the groundwork for future research grant applications to the National Institutes of Health, National Science Foundation and other funding agencies and groups, including future proposals to the Alzheimer’s Association. All NIRGD applications must target defined areas of focus outlined in this Program Announcement (see Section II).

**Funding and award period:** The Association anticipates funding up to 3 NIRGD/MNIRGD awards total under this competition. Each NIRGD award is limited to $100,000 (direct and indirect costs) for up to two years. Requests in any given year may not exceed $60,000 (direct and indirect costs). Indirect costs are capped at 10 percent (rent for laboratory/office space is expected to be covered by indirect costs paid to the institution).

**Eligibility:** Applicants must be Assistant Professors or above at their respective institution. For individuals who are at non-academic institutions, please contact the Alzheimer’s Association at grantsapp@alz.org to verify your eligibility. Eligibility to apply for this grant competition is restricted to investigators who have less than 10 years of research experience after receipt of their terminal degree. The 10-year period applies to the date of submission of the grant application. Adjustments for career interruptions can be made. Applicant must contact the Alzheimer's Association regarding any possible exception (grantsapp@alz.org). These would include, but are not limited to, family leave, military service, and major illness or injury. It is the responsibility of the applicant to point out and document such interruptions within their application.

Specific for the NIRGD and MNIRGD grant programs, eligible applicants are faculty members who have been determined by the grantee’s institution to be underrepresented on faculty in biomedical and behavioral research on a national or institutional basis, such as individuals from racial and ethnic minority groups and individuals with disabilities. As such, you must submit a letter printed on the hiring institution letterhead, signed by an authorized institutional signature (i.e. Grants and Contracts officer) that states you have
been determined by your institution to be underrepresented in the above areas. Nationally underrepresented groups in biomedical research careers include but are not limited to African-Americans, Hispanic Americans, American Indians/Alaska Natives, Native Hawaiians and Pacific Islanders.

In general, postdoctoral fellows and junior faculty (below Assistant Professor) are not eligible to apply for Alzheimer's Association grants at this time. For the New Investigators Program, there is one exception: applications for a New Investigator Research Grant (NIRG), New Investigator Research Grant to Promote Diversity (NIRGD) and Mentored New Investigator Research Grant to Promote Diversity (MNIRGD) will be accepted from postdoctoral fellows and other junior faculty members (for example: Instructor, Research Associate Scientist, etc.) who can provide a letter of employment verification indicating you will have a full-time faculty position of an Assistant Professor and above by the application deadline.

The letter of employment must be uploaded to your application, printed on the hiring institution letterhead, signed by an authorized institutional signature (i.e. Grants and Contracts officer) and must indicate that the position will be activated by the grant award date. If the anticipated position is not activated by the award date for any reason, any offer of funding will be withdrawn. There will be no exceptions. In the event your application is funded, you will be required to provide an official letter on organizational letterhead, signed by an institutional signing official, stating you will have a full-time faculty position of an assistant professor and above.

Please note: If the applicant institution does not have an Assistant Professor position, the letter of employment should include sufficient information to allow the Alzheimer's Association staff to evaluate the eligibility of the applicant.

Ineligibility: The Alzheimer's Association will not accept new grant applications from currently funded investigators who are delinquent in submitting required reports and other deliverables on active grants. Investigators that have previous Alzheimer's Association awards closed as 'Incomplete' are not eligible to apply without exception. This policy will be strictly adhered to with no exceptions.

Deadlines and award dates: Letters of Intent must be received by 5:00 PM EASTERN STANDARD TIME, February 1, 2013. Letters of Intent will not be accepted after this date. No exceptions will be made.

Applications must be received by 5:00 PM EASTERN STANDARD TIME, April 1, 2013.

Scientific and technical review will be conducted from March through June 2013. The second-level review by the Medical and Scientific Advisory Council will be conducted during June 2013. Funding will be awarded by August 30, 2013.
**Mechanism of award, reporting requirements and allowable costs:** The mechanism of the award is the individual research grant. The maximum allowable duration is two years. Annual scientific progress and financial reports are required. **Continuation of the grant over the awarded duration is contingent upon the timely receipt of scientific progress and financial reports.**

**Budget:** A "budget summary" for the proposed research project is required and must be submitted with the application and within the allowable page limits. However, if the application is to be awarded, a more detailed budget will be required and must be approved before the disbursement of funds. **Your budget must not exceed the maximum amount of the award, $100,000 or $60,000 per year.**

**Allowable costs under this award:**
It is required that most of the funds awarded under this program be used for direct research support.

**Allowable costs under this award include:**
- Purchase and care of laboratory animals
- Small pieces of laboratory equipment and laboratory supplies
- Computer equipment if used strictly for data collection
- Travel (up to $1,000 per year)
- Salary for the principal investigator, scientific (including post-doctoral fellows) and technical staff (including laboratory technicians and administrative support related directly to the funded project)

**Direct Costs not allowed under this award include:**
- Tuition
- Computer hardware or software for investigators
- Rent for laboratory/office space
- Construction or renovation costs

**For more information:** Contact grantsapp@alz.org or call 1.312.335-5747 or 1.312.335.5862.
vii. Mentored New Investigator Research Grant to Promote Diversity (MNIRGD)

**Competition objectives:** The Mentored New Investigator Research Grant to Promote Diversity is a three-year award intended to be a research-based and mentoring investment to help close disparities between diverse and non-diverse investigator populations. The Alzheimer’s Association feels strongly that the mentoring and involvement of diverse researchers in independently funded Alzheimer’s research is a pressing need. The MNIRGD is intended to enhance the capacity of diverse and non-diverse scientists to conduct basic, clinical and social/behavioral research.

The MNIRGD competition has the following general requirements:
- Foster mentoring relationships between experienced researchers and those not previously funded or considered newly independent investigators (under 10 years post degree);
- Increase the presence of scientists from diverse backgrounds who are conducting research on Alzheimer’s and related dementias;
- Enhance the research skills and scientific visibility of junior faculty members from diverse backgrounds;
- Support mentoring relationships that will establish enduring research careers of diverse scientists.

The purpose of this competition is to provide underrepresented new investigators with mentored funding that will allow them to develop preliminary or pilot data, to test procedures and to develop hypotheses. The intent is to support early-career development through mentorship that will lay the groundwork for future research grant applications to the National Institutes of Health, National Science Foundation and other funding agencies and groups, including future proposals to the Alzheimer’s Association. All MNIRGD applications must target defined areas of focus in this Program Announcement (see Section II).

**Mentor’s statement required for MNIRGD:** The mentor should be experienced in conducting Alzheimer’s and related dementia research and in mentoring investigators. The application must include a statement from the selected mentor that includes information on his/her research qualifications and experience as a research supervisor. **Please note: the mentor’s statement is limited to one page.** The application must also include information to describe the mentor’s research support relevant to the applicant’s research plan and the nature and extent of supervision and training that he/she will provide during the period of the award. The primary mentor must agree to provide annual evaluations of the applicant’s progress for the duration of the award, as required for the yearly progress report. Applicants may have two mentors, however, one must be primary and only one mentored statement can be submitted.

Mentoring selections may include early-career researchers and/or mid-career scientists who choose to shift into Alzheimer’s and related dementia research. The applicant and proposed mentor must specify a mechanism for ensuring effective mentoring. The application should contain a plan for and an evaluation strategy of the mentoring process.
for enhancing diversity in the professional research workforce. Specific benchmarks are outlined below and considered by the Alzheimer’s Association as critical for the development of early-career investigators. A successful mentorship plan should include some of these benchmarks but should not be limited to these alone.

**REQUIRED MNIRGD benchmarks:**
- Attendance at an Association-sponsored event for new investigators at the Alzheimer’s Association’s International Conference (AAIC, formerly known as ICAD)
- Acceptance of an abstract at AAIC
- Mandatory documentation of hours spent on face-to-face mentoring
- Citation of specific exercises of mentorship such as supervision of manuscript writing and submission or grant writing and submission
- Specific instances of the facilitation of networking, introductions to colleagues and/or inclusion in discussions at scientific meetings
- Submission of a proposal to an Alzheimer’s Association grant program (other than the MNIRGD) or submission of a grant proposal to the National Institutes of Health or National Science Foundation

**SUGGESTED MNIRGD benchmark (not required)**
- Submission of an application to the National Institute on Aging’s Summer Institute

**Funding and award period:** The Alzheimer’s Association anticipates funding up to 3 NIRGD/ MNIRGD awards under this competition. Each MNIRGD award is limited to $170,000. A total of $150,000 will be awarded for costs related to the proposed research for up to three years (direct and indirect costs). Requests in any given year may not exceed $60,000 (direct and indirect costs). Indirect costs are capped at 10 percent (rent for laboratory/office space is expected to be covered by indirect costs paid to the institution). The Principal Investigator must commit to a 50 percent effort toward the proposed project over the funding period.

The remaining funds, $10,000 to the applicant and $10,000 to the primary mentor, will be awarded upon successful completion of the three-year program. These additional funds are to be applied to sustaining ongoing research in the Alzheimer’s field and will be awarded through the applicant’s and mentor’s institutions. Successful completion of the program includes, but is not limited to, reaching all of the demonstrable benchmarks listed above.

**Eligibility:** Applicants must be Assistant Professors or above at their respective institution. For individuals who are at non-academic institutions, please contact the Alzheimer’s Association at grantsapp@alz.org to verify your eligibility. Eligibility to apply for this grant competition is restricted to investigators who have less than 10 years of research experience after receipt of their terminal degree. The 10-year period applies to the date of submission of the grant application. Adjustments for career interruptions can be made. Applicant must contact the Alzheimer’s Association regarding any possible exception (grantsapp@alz.org). These would include, but are not limited to, family leave, military service, and major illness or injury. It is the responsibility of the applicant to point
out and document such interruptions within their application.

Specific for the NIRGD and MNIRGD grant programs, eligible applicants are faculty members who have been determined by the grantee’s institution to be underrepresented on faculty in biomedical and behavioral research on a national or institutional basis, such as individuals from racial and ethnic minority groups and individuals with disabilities. As such, you must submit a letter printed on the hiring institution letterhead, signed by an authorized institutional signature (i.e. Grants and Contracts officer) that states you have been determined by your institution to be underrepresented in the above areas. Nationally underrepresented groups in biomedical research careers include but are not limited to African-Americans, Hispanic Americans, American Indians/Alaska Natives, Native Hawaiians and Pacific Islanders.

In general, postdoctoral fellows and junior faculty (below Assistant Professor) are not eligible to apply for Alzheimer's Association grants at this time. For the New Investigators Program, there is one exception: applications for a New Investigator Research Grant (NIRG), New Investigator Research Grant to Promote Diversity (NIRGD) and Mentored New Investigator Research Grant to Promote Diversity (MNIRGD) will be accepted from postdoctoral fellows and other junior faculty members (for example: Instructor, Research Associate Scientist, etc) who can provide a letter of employment verification indicating they will have a full-time faculty position as an Assistant Professor and above by the application deadline.

The letter of employment must be uploaded to your application, printed on the hiring institution letterhead, signed by an authorized institutional signature (i.e. Grants and Contracts officer) and must indicate that the position will be activated by the grant award date. If the anticipated position is not activated by the award date for any reason, any offer of funding will be withdrawn. There will be no exceptions. In the event your application is funded, you will be required to provide an official letter on organizational letterhead, signed by an institutional signing official, stating you will have a full-time faculty position of an Assistant Professor and above.

Please note: If the applicant institution does not have an Assistant Professor position, the letter of employment should include sufficient information to allow the Alzheimer’s Association staff to evaluate the eligibility of the applicant.

**Ineligibility:** The Alzheimer's Association will not accept new grant applications from currently funded investigators who are delinquent in submitting required reports and other deliverables on active grants. Investigators that have previous Alzheimer’s Association awards closed as ‘Incomplete’ are not eligible to apply without exception. **This policy will be strictly adhered to with no exceptions.**

**Deadlines and award dates:** Letters of Intent must be received by 5:00 PM EASTERN STANDARD TIME, February 1, 2013. Letters of Intent will not be accepted after this date. No exceptions will be made.
Applications must be received by 5:00 PM EASTERN STANDARD TIME, April 1, 2013.

Scientific and technical review will be conducted from March through June 2013. The second-level review by the Medical and Scientific Advisory Council will be conducted during June 2013. Funding will be awarded by August 30, 2013.

**Mechanism of award, reporting requirements and allowable costs:** The mechanism of the award is the individual research grant. The maximum allowable duration is three years. Annual scientific progress and financial reports are required from both the applicant and the mentor throughout the award period. **Continuation of the grant over the awarded duration is contingent upon the timely receipt of scientific progress and financial reports as well as a mentor’s report outlining progress toward meeting MNIRGD benchmarks.**

**Budget:** A “budget summary” for the proposed research project is required and must be submitted with the application and within the allowable page limits. However, if the application is to be awarded, a more detailed budget will be required and must be approved before the disbursement of funds. **Your budget must not exceed the maximum amount of the award, $150,000 or $60,000 per year.**

**Allowable costs under this award:**
It is required that most of the funds awarded under this program be used for direct research support.

**Allowable costs under this award include:**
- Purchase and care of laboratory animals
- Small pieces of laboratory equipment and laboratory supplies
- Computer equipment if used strictly for data collection
- Travel (up to $1,000 per year)
- Salary for the principal investigator, scientific (including post-doctoral fellows) and technical staff (including laboratory technicians and administrative support related directly to the funded project)

**Direct Costs not allowed under this award include:**
- Tuition
- Computer hardware or software for investigators
- Rent for laboratory/office space
- Construction or renovation costs

**For more information:** Contact grantsapp@alz.org or call 1.312.335.5747 or 1.312.335.5862.
viii. Understanding the Development and Devising Treatments for Alzheimer’s Disease in Individuals with Down Syndrome (DS/AD)

**Competition Objectives:** The Alzheimer’s Association, in collaboration with the Linda Crnic Institute for Down Syndrome and the Global Down Syndrome Foundation, is launching a new initiative to understand the development of Alzheimer’s disease (AD) in individuals with Down syndrome (DS). We are interested in understanding the mechanism(s) that lead to the initiation of AD in this specific population, with the intent to identify novel therapeutic strategies to treat AD in both the DS and non-DS populations. The Association’s Request for Applications (RFA) is aimed at identifying and developing therapeutic strategies to reduce AD and evaluate drug safety and efficacy at the preclinical and clinical levels. The RFA is designed to enable preliminary pilot research or proof-of-principle studies that can provide data to obtain additional research support from other funding agencies.

**Background:** Down syndrome (DS) occurs in 1 out of 691 infants in the U.S and is caused by the mis-segregation of chromosome 21 leading to three copies of this chromosome, or by abnormal translocations. In addition to early physical and intellectual disabilities, individuals with DS are at a high risk for developing Alzheimer’s disease (AD). Individuals with DS develop the two hallmarks of AD, plaques and tangles, in their 30s and 40s. Due to improved clinical care, these individuals are living into their 6th decade of life, causing the majority of individuals with DS to develop AD. The high incidence of AD in people with DS is thought to be due to the extra copy of chromosome 21, which contains the gene that encodes the amyloid precursor protein (APP). APP is the protein that is cleaved to form the amyloid-β (Aβ) peptide; the major protein found in plaques. It has been presumed that the extra copy of the gene produces an abnormal amount of Aβ, leading to its aggregation and deposition. However, there are hundreds of genes on chromosome 21 that may also play a role in the development of DS by affecting gene transcription, cell-cell interaction, synaptic activity, or induction of abnormal cell division. Even though there are developmental abnormalities that occur early in life which are unrelated to AD development, there is little research into whether or not other genes that are over-expressed by this genetic abnormality play a role in AD pathophysiology. This RFA is to explore what is known about DS with respect to how it may relate to the development of familial and sporadic AD. We are interested in understanding the similarities and differences between these conditions to help us identify new targets and potential therapies. We want to explore whether DS models could identify targets not available in current AD models. Finally, of critical importance is the fact that these individuals with DS can be identified early in life, before the onset of AD, allowing individuals to be used to develop predictive AD biomarkers and in the designing of practical interventional trials.

**Potential themes:**

1) **Can DS animal models provide new insights into the initiation and development of AD?** The current AD models only reproduce the early features of AD. Animal models that reproduce the full spectrum of the disease are required to test therapeutic strategies that may be needed in the mid to later stages of the disease. Researchers have genetically engineered mouse models of DS. Can these mice provide more insight into the
development of AD? How similar or different are the pathologies in the DS and AD mouse models?

2) Are there key biochemical pathways that may be responsible for the induction and progression of AD in DS? There are specific genes on chromosome 21 other than APP that alter CNS physiology through their effects on transcription, cell-cell interactions, redox balance, and channel physiology. Can this increased gene dosing identify proteins involved in AD pathogenesis?

3) Are pre-clinical therapeutics capable of slowing or blocking the development of AD in DS models? Both pharmacological and non-pharmacological therapies have been developed to ameliorate AD pathology in pre-clinical models. Are these efficacious in a DS model?

4) Could early, non-pharmacologic interventions used in other child disabilities not only reduce the early physical and intellectual disabilities, but slow and/or reduce the onset of AD? Physical activity, mental stimulation and social interactions are suggested to reduce the risk of AD. Often children with disabilities are enrolled in specific physical and educational programs to reduce deficits or learn compensatory skills. Do these programs reduce the risk of AD in individuals with DS or animal models as well as reducing (or lessening) these early disabilities?

5) Does the initiation and progression of the conditions in human tissue show similar or different characteristics in DS in comparison to AD? More information is needed concerning the progression of the pathophysiology of AD in the brain of persons with DS. Do Aβ and Tau spread in the brain of a person with DS in the same manner as in AD? Are the affected areas of the brain similar or different when comparing DS vs. sporadic AD brain tissue?

6) Can the development of AD biomarkers be used in DS to identify the pre-clinical onset of the disease? Because people with DS are readily identified at a very early age and the majority eventually convert to AD, this population is ideal for monitoring biomarkers to determine their ability to predict the onset of AD. Can CSF markers recently being developed in AD be used to follow pre-clinical AD in individuals with DS? This could include Aβ, Tau, or brain imaging. These studies would be needed to devise future interventional trials.

7) Can cognitive tests be developed for the DS population to measure memory impairment and early dementia? Because clinical outcomes such as cognition are important in judging the effectiveness of therapeutics, do specific cognitive tests need to be developed due to the intellectual disabilities prior to the onset of AD in individuals with DS? This can be a challenge because of the large variation in the severity of these disabilities.

General considerations: Any proposal must have a clear focus on the relationship between DS and AD and what therapeutic approaches can be identified. Any study that uses animal models must clearly and explicitly outline potential methods of translating and relating findings to the human condition in the future. Ultimately, the goal is to translate the
research into strategies to improve the treatment of people at risk to develop AD.

Because the principal idea is to encourage studies into new approaches and translation of this novel technology to human studies, an interdisciplinary approach might be most fruitful. Therefore, the Association strongly encourages submissions from collaborative research teams (e.g., basic scientists and clinical researchers). In addition, while novel and creative ideas are sought, proposals also need to demonstrate feasibility.

**Funding and award period:** Funding will be considered from both more established investigators (investigator initiated) and new investigators independently.

**Eligibility:** Researchers with full-time staff or faculty appointments are encouraged to apply (Assistant Professor and above). Applications from post-doctoral candidates will not be accepted (see below DS/AD New Investigator program for exception).

**DS/AD Investigator Initiated program:** Researchers with full time staff or faculty appointments (Assistant Professor or above) are encouraged to apply. Applications from postdoctoral or junior faculty (below assistant professor) are not eligible to apply for this program.

**DS/AD New Investigator program:** Eligibility to apply as a new investigator is restricted to investigators who have less than 10 years of research experience after receipt of their terminal degree. The 10-year period applies to the date of submission of the grant application. Adjustments for career interruptions can be made. Applicant must contact the Alzheimer’s Association regarding any possible exception (grantsapp@alz.org). These would include, but are not limited to: family leave, military service, and major illness or injury. It is the responsibility of the applicant to point out and document such interruptions within their application.

In general, postdoctoral fellows and junior faculty (below Assistant Professor) are not eligible to apply for Alzheimer’s Association grants at this time. For the DS/AD New Investigator program, applications will be accepted from postdoctoral fellows and other junior faculty members (for example: Instructor, Research Associate Scientist, etc.) who can provide a letter of employment verification indicating you will have a full-time faculty position of an Assistant Professor and above by the award deadline. The letter of employment must be uploaded to your application, printed on the hiring institution letterhead, signed by an authorized institutional signature (i.e. Grants and Contracts officer) and must indicate that the position will be activated by the grant award date. If the anticipated position is not activated by the award date for any reason, any offer of funding will be withdrawn. There will be no exceptions. In the event your application is funded, you will be required to provide an official letter on organizational letterhead, signed by an institutional signing official, stating you will have a full-time faculty position of an assistant professor and above.

**Please note:** If the applicant institution does not have an Assistant Professor position, the letter of employment should include sufficient information to allow the Alzheimer’s Association staff to evaluate the eligibility of the applicant.
Ineligibility: The Alzheimer's Association will not accept new grant applications from currently funded investigators who are delinquent in submitting required reports and other deliverables on active grants. Investigators that have previous Alzheimer’s Association awards closed as ‘Incomplete’ are not eligible to apply without exception. This policy will be strictly adhered to with no exceptions.

Deadlines and award dates: Letters of Intent must be received by 5:00 PM EASTERN STANDARD TIME, February 1, 2013. Letters of Intent will not be accepted after this date. No exceptions will be made.

Applications must be received by 5:00 PM EASTERN STANDARD TIME, April 1, 2013. Scientific and technical review will be conducted from March through June 2013.

The second-level review by the Medical and Scientific Advisory Council of the Alzheimer's Association and the Scientific Advisory Board of the Linda Crnic Institute will be conducted during June 2013. Funding will be awarded by August 30, 2013. Applications received by investigators at the Linda Crnic Institute for Down Syndrome will be reviewed solely by the Medical and Scientific Advisory Council of the Alzheimer's Association.

Mechanism of award, reporting requirements and allowable costs: The mechanism of the award is the individual research grant. The maximum allowable duration is three years. Annual scientific progress and financial reports are required. Continuation of the grant over the awarded duration is contingent upon the timely receipt of scientific progress and financial reports.

Budget: A “budget summary” for the proposed research project is required and must be submitted with the application and within the allowable page limits. However, if the application is to be awarded, a more detailed budget will be required and must be approved before the disbursement of funds. Budgets must not exceed the maximum amount of the award ($300,000 or $150,000 for the Investigator Initiated vs. New Independent Investigator) in the “Development and Devising Treatments for Alzheimer’s Disease in Individuals with Down Syndrome” grant program.

DS/AD Investigator Initiated Awards:
Investigator Initiated awards are limited to $300,000 (direct and indirect costs) for 2-3 years. Requests may not exceed $125,000 (direct and indirect costs) in a given year. Indirect costs are capped at 10 percent (rent for laboratory/ office space is expected to be covered by indirect costs paid to the institution).

DS/AD New Investigator Awards:
New Investigator award applications are limited to $150,000 (direct and indirect costs) for 2-3 years. Requests may not exceed $60,000 (direct and indirect costs) in a given year. Indirect costs are capped at 10 percent (rent for laboratory/ office space is expected to be covered by indirect costs paid to the institution).
Allowable costs under this award: It is required that most of the funds awarded under this program be used for direct research support. Indirect costs are capped to 10 percent.

Allowable costs under this award include:
- Purchase and care of laboratory animals
- Small pieces of laboratory equipment and laboratory supplies
- Computer equipment if used strictly for data collection
- Travel (up to $1,000 per year)
- Salary for the principal investigator, scientific (including post-doctoral fellows) and technical staff (including laboratory technicians and administrative support staff whose work is directly related to the funded project)

Costs not allowed under this award include:
- Tuition
- Computer hardware or software for investigators
- Rent for laboratory/office spaces
- Construction or renovation costs

For more information: Contact grantsapp@alz.org or call 1.312.335.5747 or 1.312.335.5862.

The Understanding the Development and Devising Treatments for Alzheimer’s Disease in Individuals with Down Syndrome (DS/AD) is being co-funded by the Linda Crnic Institute for Down Syndrome, Global Down Syndrome Foundation and the Alzheimer’s Association.