



Research Priorities and Opportunities at the National Institute on Aging (NIA)

ASBMB Webinar
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National Institute on Aging



NIA Programmatic Divisions:

- [Division of Aging Biology](#)
 - molecular, cellular, and genetic research on the mechanisms of aging
- [Division of Behavioral and Social Research](#)
 - social, behavioral, and economic research and research training on the processes of aging at both the individual and societal level
- [Division of Geriatrics and Clinical Gerontology](#)
 - clinical and translational research on health and disease in the aged
- [Division of Neuroscience](#)
 - understanding of neural and behavioral processes associated with the aging brain; Alzheimer's Disease and related dementias

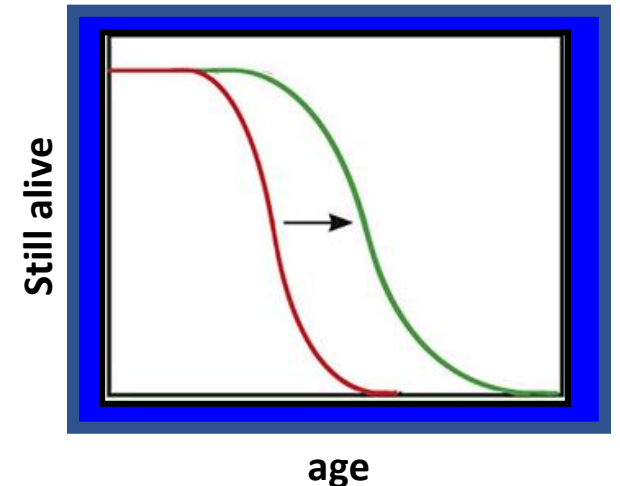
Division of Aging Biology

BASIC

APPLIED

TRANSLATIONAL

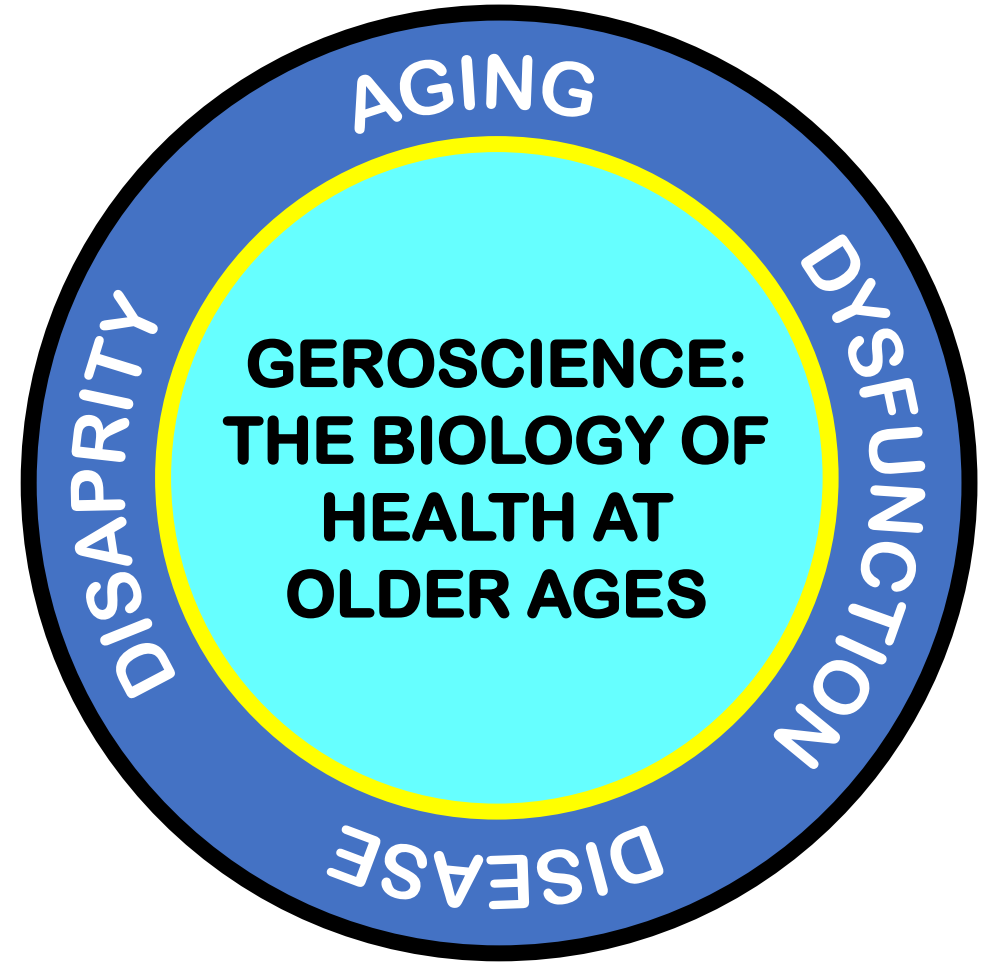
- Basic research for the discovery of molecular mechanisms of aging.
- Applied research for development of analytical tools and resources to support discovery in aging biology.
- Translational research for healthy aging.



Division of Aging Biology

Geroscience:

- The geroscience hypothesis: Slowing the rate of aging reduces morbidity and allows greater function, yielding greater health at older ages.



Division of Behavioral and Social Research

- **Elucidate the pathways** by which social, psychological, economic, and behavioral factors affect health at older ages
- **Identify the causal mechanisms** driving these associations
- **Target these mechanisms** to modify individual and organizational behaviors to promote health, prevent disease, and optimize health care
- **Cross-cutting themes:**
 - Understanding and Addressing Health Disparities
 - Life Course Perspective on Aging Processes
 - Biobehavioral and Biosocial Integration
- [Data Resources](#)
- [Research Networks](#)
- [Centers: RCMAR, Roybal, Demography & Economics](#)

Alzheimer's-related Research in BSR



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Division of Geriatrics and Clinical Gerontology

Geriatrics

Focus on the *aged*:

- Treating or preventing problems in older persons
- Previously undefined pathologies in old age
- Late-stage disease
- Comorbid interactions

Clinical Gerontology

Focus on *aging* over the life span:

- Altering progressive aging changes
- Processes leading to age-related pathologies
- Early pathophysiology
- Common factors leading to multiple age-related pathologies

Shared foci: Disease/disability prevention in old age, progression of aging pathologies in late life

Division of Neuroscience

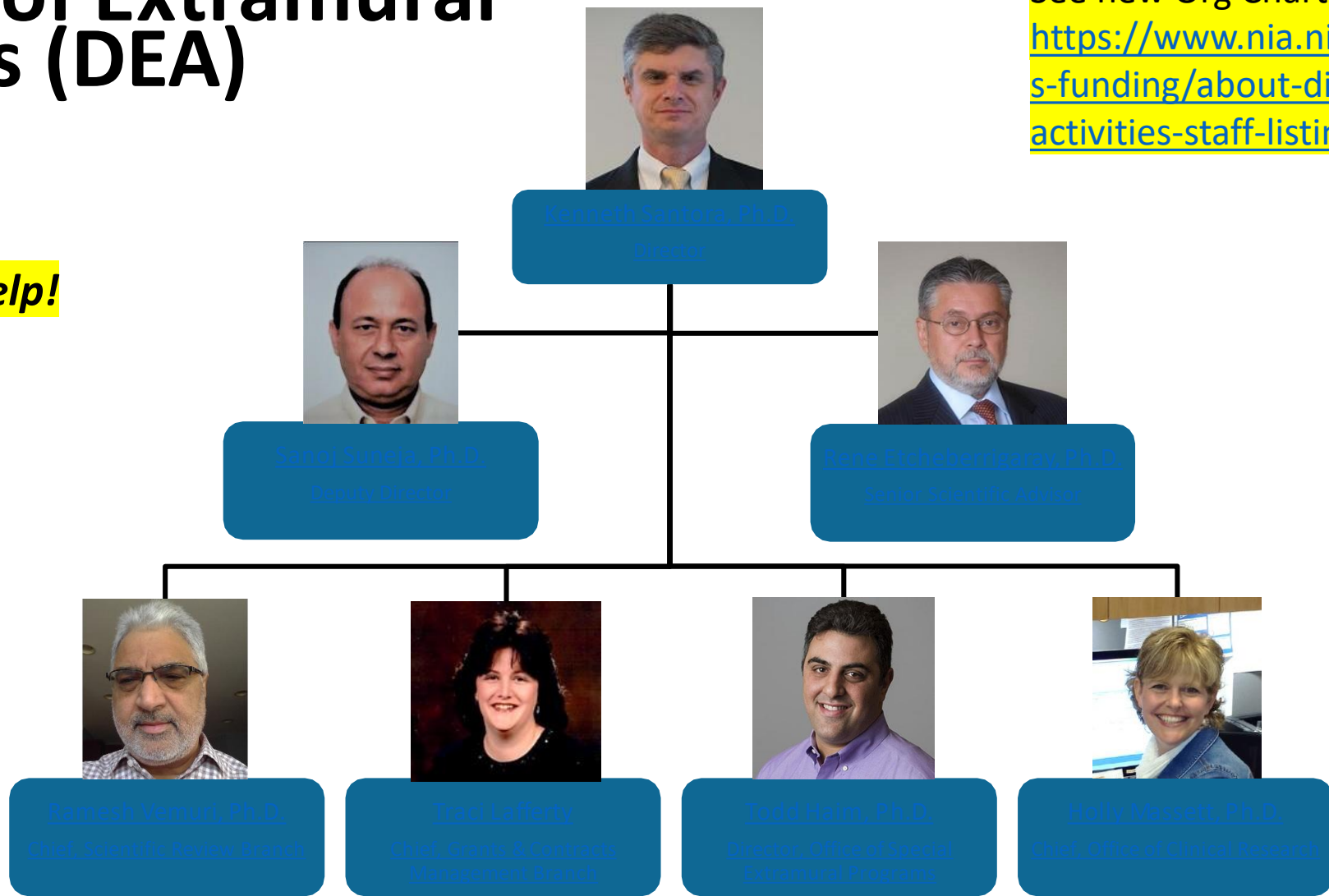
- **Strategic Development and Partnerships Office**
 - development on all aspects of brain aging, Alzheimer's disease, and related dementias
- **Population Studies and Genetics Branch**
 - Cognitive decline; morbidity/mortality; genomics (+integrated)
- **Neurobiology of Aging and Neurodegeneration Branch**
 - Neuroscience; basic science of AD; Integrative Neurobiology; sleep and biorhythms; BRAIN initiative
- **Behavioral and Systems Neuroscience Branch**
 - Cognitive neuroscience; sensory processes; motor function; Affective Neuroscience
- **Translational Research Branch**
 - Drug discovery and repositioning; data science; infrastructure
- **Clinical Interventions and Diagnosis Branch**
 - Biomarkers; clinical trials (pharm/non-pharm)

Division of Extramural Activities (DEA)

Organizational chart

See new Org Charts posted on the web:
<https://www.nia.nih.gov/research/grants-funding/about-division-extramural-activities-staff-listing>

We're here to help!



Notice of Funding Opportunities (NOFOs)

- **Get new NOFOs in your inbox!**
- **[Sign up for "NIA Funding Opportunities"](#)** for our monthly NOFOs email alert with the latest funding opportunities from NIA.

NIA and NIH Opportunities

- Always Contact your Program Officer!! (Research Contact)
- List: NIA sponsored NOFOs
 - 80+ NIA sponsored Active NOFOs and Notices
 - 245 Active NOFOs and NOSI in which NIA is signed on
 - <https://www.nia.nih.gov/research/grants-funding>
 - Check for RFA, PA, PAR, PAS and NOSI
- NACA Approved Concepts: (NIA Council)
 - <https://www.nia.nih.gov/approved-concepts>
- Search for NOFOs by key word
 - <https://grants.nih.gov/funding/index.htm>
- Subscribe
 - Weekly NIH Guide to Grants and Contracts
 - https://grants.nih.gov/grants/guide/listserv_dev.htm

Unsolicited NIH Parent Announcements

- NIA participates in the NIH Parent Announcements for the following mechanisms:
 - Check if: “Clinical Trial Required/Optional/ Not Allowed”
 - Research Grants:
 - **R03, R21, R01**
 - SBIR and STTR: R41/R42 and R33/R44
 - Training, Career Development and Fellowships
 - **T32, T35, K01, K02, K08, K23, K24, K25, K99/R00, F30, F31, F32, F33**
 - Research Supplements (way to break into the AD field)
 - Conference Grants R13; Loan Repayment program (LRP)

NIA 'Parent' Announcements

- NIA Program Project Applications (**P01** Clinical Trial Optional) [PAR-19-314](#)
- Complex Integrated Multi-Component Projects in Aging Research (**U19** Clinical Trial Optional) [PAR-19-374](#):
large-scale, complex research projects with multiple highly integrated components
- NIA Multi-site Clinical Trial Implementation Grant (**R01** Clinical Trial Required) [PAR-19-302](#)

Research Mechanism Comparison: Which is right for you?

R01

Research Project Grants

- Standard 5-year award; no budget limit but need to reflect the actual needs of the proposed project
- Advanced/established independent work

R21

Exploratory/Developmental Grants

- Smaller risk 2-year award; \$200K direct costs per year
- No preliminary data required (but may include)

R03

Small Research Grants

- \$50-100K direct costs per year for up to two years
- Pilot research that is likely to lead to a subsequent individual R01

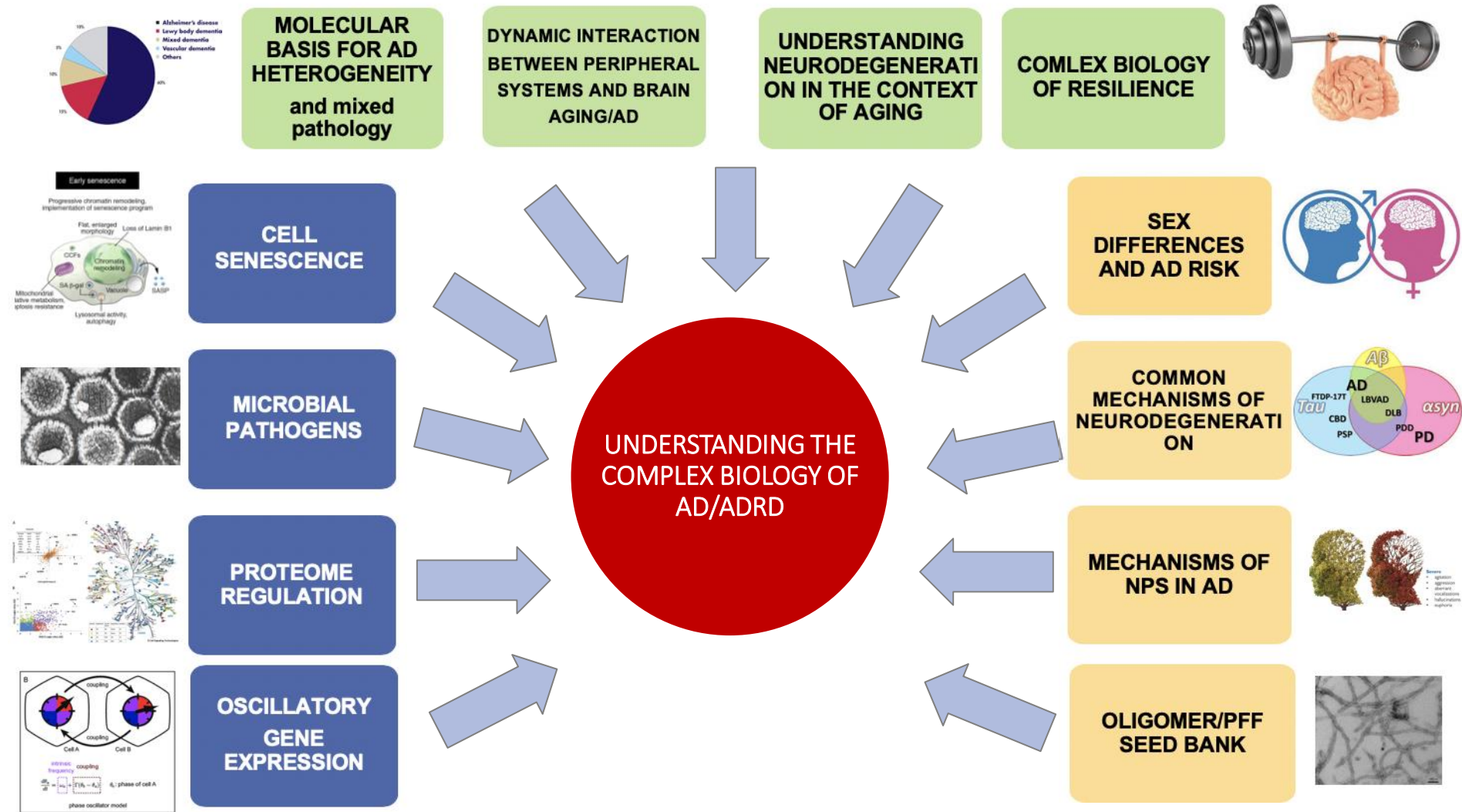
Alzheimer's Disease (AD) and Alzheimer's-Disease-Related Dementias (ADRD)

The ADRDs include:

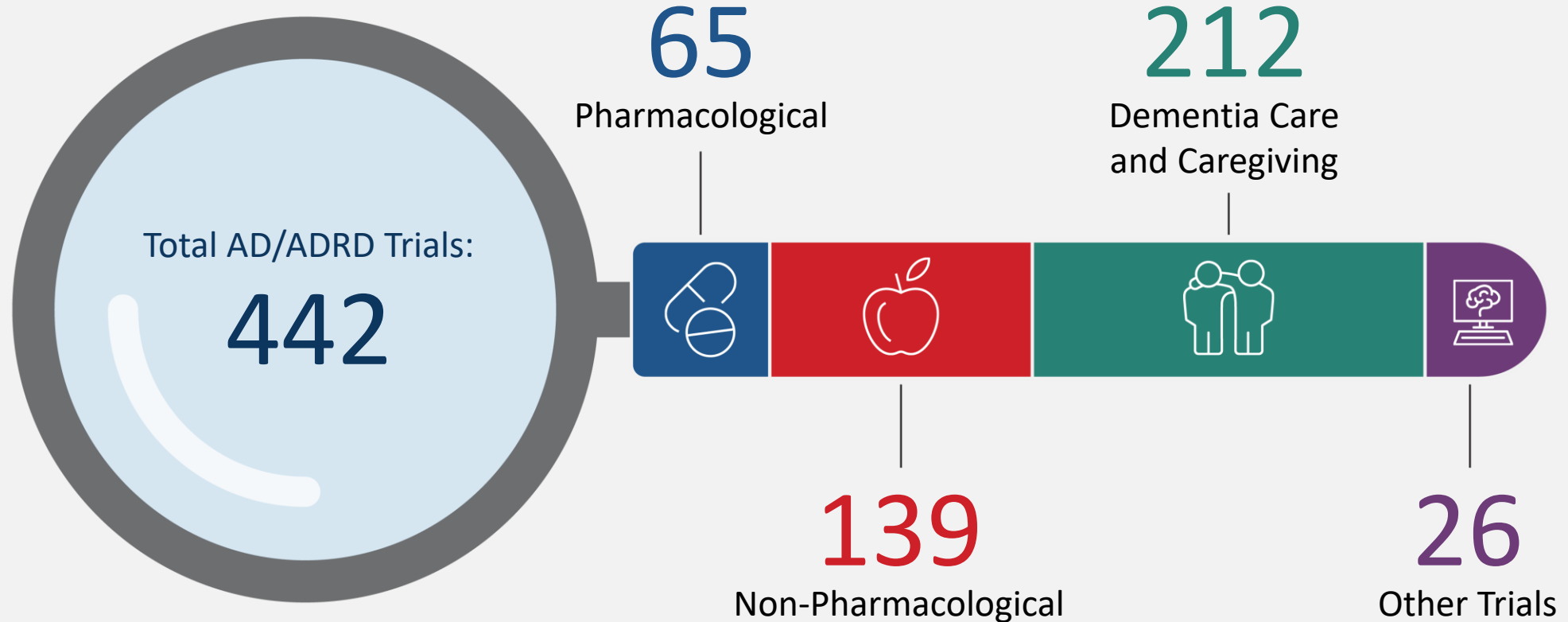
- [Frontotemporal disorders \(FTD\)](#)
- [Lewy body dementia \(LBD\)](#)
- [Vascular contributions to cognitive impairment and dementia \(VCID\)](#)
- [Mixed etiology dementias \(MED\)](#)

Alzheimer's Disease and Related Dementias NOFOs

<http://www.nia.nih.gov/AD-FOAs>



Total Active NIA AD/ADRD Clinical Trials



Major AD/ADRD Program Announcements:

- Research on **Current Topics** in Alzheimer's Disease and Its Related Dementias (**R01** Clinical Trial Optional) [PAR-22-093](#) (**check NOSIs**)
 - Age-Associated Metabolic Changes
 - in vivo Synaptic Function
 - Sex and Gender Differences
 - Sensory and Motor System Changes as Predictors
 - Selective Cell and Network Vulnerability in Aging
 - Complexity in the Molecular and Cellular Mechanisms
 - Endosomal Trafficking
- Research on **Current Topics** in Alzheimer's Disease and Its Related Dementias (**R21** Clinical Trial Not Allowed) [PAR-22-094](#) (+NOSIs)

Other AD/ADRD Programs

- **Early Stage and Late Clinical Trials** for the Spectrum of Alzheimer's Disease and Age-related Cognitive Decline (R01 Clinical Trial Optional)
[PAR-21-359 \(+NOSIs\)](#)
 - Addressing gaps in screening
- Alzheimer's **Drug-Development** Program (U01 Clinical Trial Optional)
[PAR-22-047 \(+NOSIs\)](#)
 - Radiotracers for diagnostics
 - Preclinical diagnostics;
 - novel small-molecule and biologic drug candidates
 - medicinal chemistry; pharmacokinetics (PK); Absorption, Distribution, Metabolism, Excretion, Toxicology

Other AD/ADRD Programs

- Translational **Bioinformatics** Approaches to Advance **Drug Repositioning** and Combination Therapy Development for Alzheimers Disease (R01 Clinical Trial Optional) [PAR-20-156](#)
- Alzheimer's Disease Research Centers (P30 Clinical Trial Not Allowed) [RFA-AG-21-019](#)
 - Development of more effective approaches to prevention, diagnosis, care, and therapy of AD/ADRD
 - Opportunity to collaborate
- [Integrative Research to Understand the Impact of Sex Differences on the Molecular Determinants of AD Risk and Responsiveness to Treatment \(U01 Clinical Trial Optional\)](#)
 - PAR-23-082

Other AD/ADRD Programs

- Small Research Grant Program for the Next Generation of Researchers in AD/ADRD Research:
- Area of Focus Systems Biology (R03 Clinical Trial Not Allowed)
- Area of Focus Basic Science (R03 Clinical Trials Not Allowed)
- Area of Focus Archiving and Leveraging Existing Data Sets
- R03 mechanism; being reissues now under one NOFO
- Look out for the Administrative Supplement program: AD Supplements to non-AD grants

General NIA Topics (non-Alzheimer's Disease)

General (non-AD/ADRD) NOFOs:

- Research Infrastructure Development for Interdisciplinary Aging Studies (R61/R33 - Clinical Trial Optional) [PAR-23-053](#)
 - develop research infrastructure requiring interdisciplinary partnerships
- Interorgan Communication in Aging (U01 Clinical Trial Not Allowed)
 - U01; molecular mechanisms and consequences of age-related alterations in interorgan communication
- Nathan Shock Centers:
 - Supports specialized cores that provide services to support aging biology research
 - Funds pilot studies and national meetings

Council Concepts approved

<https://www.nia.nih.gov/approved-concepts>

- Seamless Early-Stage Clinical Drug Development (Phase 1 to 2a) for Novel Therapeutic Agents for AD/ADRD
- Small Research Grant Program for the Next Generation of Researchers in AD/ADRD Research
- Analytical and Clinical Validation of Biomarkers for AD/ADRD
- Chimeric Antigen Receptor (CAR) Approaches to AD/ADRD
- Development and Validation of Harmonized Methodologies to Measure NAD⁺ and Related Metabolite Levels in Clinical Trials

Crossover NOFOs -NIA signed on

NIH BRAIN Initiative®

- *Brain Research Through Advancing Innovative Neurotechnologies*
 - Accelerate the development and application of innovative technologies
 - Treat, cure, and even prevent brain disorders
 - Explore major gaps in our current knowledge
 - *Partners with DARPA, IARPA, NSF, FDA*
 - <https://braininitiative.nih.gov/>

BRAIN NOFOs (NDS and MH)

- BRAIN Initiative: Engineering and optimization of *molecular* technologies for functional dissection of neural circuits (UM1 Clinical Trial Not Allowed)
- BRAIN Initiative: Development and Validation of Novel Tools to Probe Cell-Specific and Circuit-Specific Processes in the Brain (R01 Clinical Trial Not Allowed)
- BRAIN Initiative: Development of Novel Tools to Probe Cell-Specific and Circuit-Specific Processes in Human and Non-Human Primate Brain (UG3/UH3 Clinical Trial Optional)
- BRAIN Initiative: New Technologies and Novel Approaches for Recording and Modulation in the Nervous System (R01 Clinical Trial Not Allowed)

NIH HEAL Initiative

- **Helping to End Addiction Long-term[®]** Initiative
- Mission: speed scientific solutions to stem the national opioid public health crisis
 - Understanding, managing, and treating pain
 - Improving prevention and treatment for opioid misuse and addiction

HEAL NOFOs

- HEAL Initiative: Development and Validation of Non-Rodent Mammalian Models of Pain (R01 Clinical Trial Not Allowed)
- HEAL Initiative: Team Research for Initial Translational Efforts in Non-addictive Analgesic Therapeutics Development [Small Molecules and Biologics] (U19 Clinical Trial Not Allowed)
- HEAL Initiative: Discovery and Validation of Novel Targets for Safe and Effective Pain Treatment (R01 Clinical Trial Not Allowed)
- HEAL Initiative Integrated Basic and Clinical Team-based Research in Pain (RM1 Clinical Trial Optional)

General Grantsmanship Tips:

- ***Read the entire FOA! And Apply EARLY***
- **Identify and utilize your collaborators**
 - Assemble a **team** of reviewers
 - Look at the review criteria in FOA
 - **Know your institutional officials**
 - Remember: Award goes to the Institution!
 - Know your deadlines
 - **NIH staff (contacts at end of FOA)**
- **Use extensive internet resources**
 - Review examples of funded applications
 - Review tutorials

Remember: Always Resubmit!!!

Grant-writing Resources for NIH Research Grants

- **All About Grants** - A multi-part site, including sections on **Grant Application Basics**, **How to Plan a Grant Application**, **How to Write a Grant Application**. These documents are in PDF form (NIAID)
<http://www.niaid.nih.gov/researchfunding/qa/pages/applygenplan.aspx>
- **Quick Guide for Research Grant Applications** (NCI)
<http://deainfo.nci.nih.gov/extra/extdocs/gntapp.htm>
- **Tips for New NIH Grant Applicants** (NIGMS)
<http://www.nigms.nih.gov/Research/Application/Tips.htm>
- **Common mistakes** in grant applications (NINDS)
http://www.ninds.nih.gov/funding/grantwriting_mistakes.htm
- **Writing a grant application: A Technical Checklist**
http://www.ninds.nih.gov/funding/grantsmanship_checklist.htm
- **Annotated Sample R01 grant** (from NIAID)
<http://www.niaid.nih.gov/ncn/grants/app/default.htm>

Other Resources:

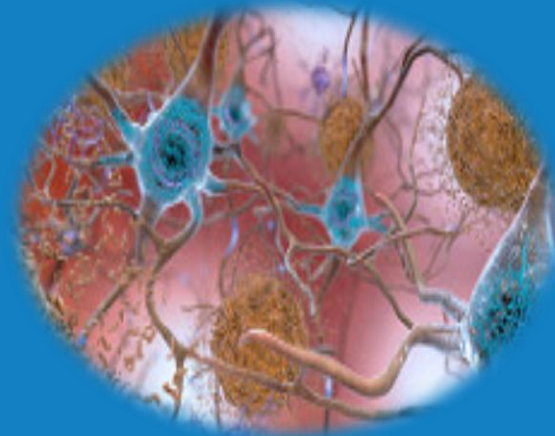
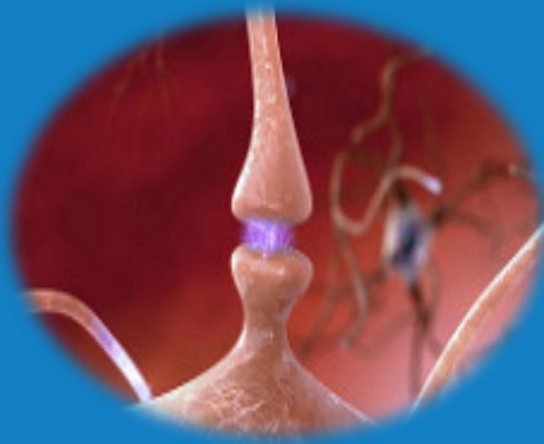
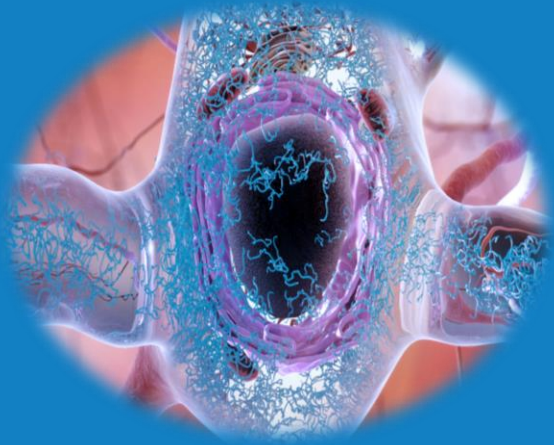
- **NIA Training and Career Development:**
<https://www.nia.nih.gov/research/training>
- **NIA New and Early Stage Investigators**
 - <https://www.nia.nih.gov/research/grants-funding/nia-new-and-early-stage-investigators>
- **NIA Grants & Funding**
 - <https://www.nia.nih.gov/research/grants-funding>

THANK YOU!

QUESTIONS???

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NIA

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