MCKNIGHT BRAIN RESEARCH FOUNDATION (MBRF)
Meeting of the Research Committee
of the Board of Trustees

Monday, January 29th, 2024
5:30 pm ET – 6:30 pm ET

Members Attending: Dr. Madhav Thambisetty, Committee Chair; Dr. Mike Dockery, MBRF Chair; Dr. Sue Pekarske, Trustee; Dr. Patricia Boyle, Trustee; Dr. Roy Hamilton, Trustee

Also Attending: Ms. Melanie Cianciotto, Corporate Trustee; Dr. Angelika Schlanger, Executive Director

AGENDA

5:30pm ET	1.	Call to Order/Roll Call	Dr. Madhav Thambisetty
ACTION	2.	Approval of Minutes, September 20, 2023	Dr. Madhav Thambisetty
	3.	Updated Activity Timeline	Dr. Madhav Thambisetty
5:45pm **ACTION**	4.	MBI Leadership Council's Proposal - Cognitive Aging Memory Intervention (CAMI) Core Pilot Grant Program (*attachment*)	Dr. Madhav Thambisetty
6:05pm	5.	Current Grants/Programs a. McKnight Brain Aging Registry (MBAR) Proposal Update b. MBRF Innovator Awards in Cognitive Aging and Memory Loss (AFAR) – Survey and Renewal c. MBRF Clinical Translational Research Scholarship in Cognitive Aging and Age-Related Memory Loss (ABF) – Strategies to Increase Applications (*attachment*) d. Reserve and Resiliency Collaboratory (Workshop # 4) – Final Report (*attachment*)	Dr. Angelika Schlanger
6:25pm	6.	Other Business	Dr. Madhav Thambisetty
6:30pm ET **ACTION**	7.	Adjourn	Dr. Madhav Thambisetty

MINUTES
MCKNIGHT BRAIN RESEARCH FOUNDATION (MBRF)
RESEARCH COMMITTEE
CONFERENCE CALL
September 20, 2023

The Research Committee of the MBRF was called to order at 4:00 pm EST on September 20, 2023, by Dr. Madhav Thambisetty.

The following members were present:

Dr. Madhav Thambisetty, Chair of the Research Committee, Trustee
Dr. Mike Dockery, MBRF Chair
Dr. Patricia Boyle, Trustee
Dr. Roy Hamilton, Trustee
Dr. Sue Pekarske, Trustee

Others attending:

Dr. Lee Dockery, Chair Emeritus
Ms. Melanie Cianciotto, Corporate Trustee
Dr. Angelika Schlanger, Executive Director

1. Call to Order

Dr. Thambisetty welcomed the members of the committee to the call and welcomed Dr. Hamilton to his first research committee meeting.

2. Minutes of the March 28, 2023 Meeting

The minutes of the March 28, 2023, Research Committee Meeting (Attachment 1) were approved as presented.

Action Item 1: The minutes of the March 28, 2023, Research Committee Meeting were approved as presented (Attachment 1).

3. Updated Activity Timeline

The committee reviewed the updated Activity Timeline (Attachment 2) for information. Dr. Thambisetty shared the activities that have recently been completed:

Cognitive Aging Summit (CAS) IV – the theme is "Precision Aging and Brain Health." Save the dates are beings sent out and the conference page is now live.

Innovator Awards – the review committee met on September 7, 2023. Dr. Boyle, Dr. Hamilton and Dr. Thambisetty participated in the review process.

Society for Neuroscience (SfN) – Ms. Vicki Hixon has planned the event and the McKnight Brain Institutes (MBIs) have been sent the application to submit an abstract.

Clinical Translational Research Scholarship in Cognitive Aging and Age-Related Memory Loss (CTRS) – The application window closed on September 14, 2023.

4. Leadership Council's Consensus Memo

The trustees discussed the Leadership Council's Consensus Memo (Attachment 3). The memo contained 3 recommendations:

1. Prioritize securing extramural funding for the McKnight Brain Aging Registry (MBAR) in the next cycle of pilot awards. To this end, the Council requested that funds be used to support the salary of a Prinicpal Investigator (PI), a database administrator, and related costs to house and administer the MBAR at one of the MBIs. The PI would be responsible for submitting an outline and timeline for an extramural proposal for funding to support the MBAR and a plan to sustain the program over the long term.
2. Broaden the focus of future pilot awards to consider proposals that leverage MBAR data and that focus on identification of novel intervention targets.
3. Create an infrastructure for the Inter-Institutional Pilot Grant Mechanism, which would entail the Leadership Council taking responsibility for the program and paying an administrator to oversee the logistics of implementing the program.

After much discussion, the committee recommends a pause on the Pilot Grant Program. The committee felt that the pilot grant program already addresses the topics mentioned in the 2nd recommendation, and that a potential restructuring, as suggested in recommendation 3, would warrant deeper discussion. The committee also discussed that it would be important for the MBRF to identify the desired outcomes and conditions for continuing the program before implementing another grant cycle, if that were the chosen direction. The committee discussed the importance of strong leadership, collaboration, and communication across the MBIs, as well as the importance of having a champion for the pilot grants program in order for it to run effectively.

The committee also discussed the possibility of leveraging unused funds that were previously approved for the MBAR program to support the 1st recommendation of the Leadership Council. The committee discussed inviting the Council to submit a single collaborative proposal that outlines a plan and budget for how this balance will be used, identifies which MBI will house the data and bio-specimen repository, and names the Principal Investigator (PI) who will oversee the program and serve as the main point of contact for the MBRF and the other MBIs. The goal of this funding would be to serve as a bridge grant to enable the development of a centralized infrastructure and long-term sustainability plan for the MBAR, as requested by the

Council. The committee stipulated that funding can be requested for a database administrator, but not to fund effort of the PI.
The committee asked Dr. Schlanger to draft a response to Dr. Bizon outlining what the MBRF is seeking from the Leadership Council related to MBAR, and to communicate a pause for the pilot grant program.

Action Item 2: The committee recommends a pause on the Pilot Grant Program.

Action Item 3: Dr. Schlanger will draft a response to Dr. Bizon outlining what the MBRF is seeking from the Leadership Council regarding the McKnight Brain Aging Registry (MBAR).

5. Current Grants/Programs

a. MBRF Innovator Awards in Cognitive Aging and Memory Loss (AFAR)

The trustees received the 2022 – 2023 Annual Progress Report (Attachment 4) for information.

The trustees reviewed the 2023 McKnight Brain Research Foundation Innovator Awards in Cognitive Aging and Memory Loss Recommendations (Attachment 5). Five applications were reviewed. The committee noted the high quality and caliber of the applications and were asked to rank the applications in two separate groups – basic and clinical. The committee recommends funding Dr. Denise Cai, PhD – Basic Science and Dr. Christopher Thaiss, PhD – Clinical.

This year is the 3rd of the three award cycles funded through the grant. AFAR values the partnership and would like to continue to partner with the MBRF. The committee concurred that the awarded projects have been high quality and that the PIs have potential to be leaders in the field. The committee discussed ways to increase the number of applicants and agreed to have AFAR make specific recommendations to achieve this goal. The committee reaffirmed the focus of targeting mid-career investigators, but agreed to explore loosening the match requirements to enable a broader pool of candidates to apply. If the MBRF is not as rigid about institutional support that would perhaps open the application to candidates with less funding from their institutions. After discussion, the committee recommended renewal of the contract with AFAR for another three-year cycle. Dr. Schlanger will reach out to AFAR and ask them to provide suggestions for increasing the reach of the program. Once these suggestions are reviewed and approved, they can be incorporated into the new contract. Dr. Schlanger was asked to draft a renewal request letter to share with AFAR.

Action Item 4: The committee recommends renewal of the contract with AFAR for another three year cycle.

Action Item 5: Dr. Schlanger will reach out to AFAR to ask them to provide suggestions for increasing the reach of the program.

Action Item 6: Dr. Schlanger will draft a renewal request letter for AFAR.

b. MBRF Clinical Translational Research Scholarship in Cognitive Aging and Age-Related Memory Loss (ABF)

The trustees received the two final reports from the 2021 awardees and the two interim reports from the 2022 awardees for information(Attachment 6). The 2020 awardees received a one year no-cost extension due to the pandemic. ABF is working to obtain the reports, which are now overdue. Dr. Thambisetty shared that the program is going very well and the reports demonstrate that the researchers have made impressive progress both in their research as well as career progression. The review committee will meet in November to review the applications that were received during the current cycle.

7. Adjourn

Dr. Thambisetty asked if there was any further discussion. Hearing none, he called for adjournment of the meeting at 5:25 p.m. EST.

Summary of Action Items:

Respectfully Submitted,

Melanie A. Cianciotto
Corporate Trustee

Research Committee Activity Timeline

2022-2023

Updated January 22, 2024

Duty (from Committee Charter)	Activity/Action	Outcome	Date	Comments
"Encourage and assess research at the McKnight Brain Institutes (MBIs)"	Review of the Annual Reports of the MBIs	Information for scientific review includes: scientific achievements, publications, presentations, collaborations	DONE February 5, 2020 DONE June 15, 2020 DONE Feb. 26, 2021 Annual Reports were reviewed by the Trustees on Feb. 9, 2022	Reviewers presented at Feb. 2021 Trustees Meeting. Follow up letters were written and sent to each of the MBIs. All Requests of MBIs have been addressed by MBIs. MBRF/MBI Task Force was established April 2021 to streamline Annual Report Recommendations. Recommendations were reviewed Oct 28, 2021 by Trustees. New Template was used for 2021 Annual Reports
	Review of all New Funding Requests from MBIs. Most Funding Requests should be reviewed by the Interventional Core Committee of the MBIs first.	UM submitted a request for $200,000 for Neurocognitive Post-Doctoral Fellowship over the next two years Christian Agudelo, MD, was selected	October 23, 2019 Trustees voted to fund -- payable over two years. Position Start Date – July 2020	The notification letter mentioned that future funding should come from other sources (See "The Evelyn F. McKnight Neurocognitive Clinical Scholar in Brain Health and Aging" on page two)

		UA submitted a request for $244,400 for UM's participation in the Precision Aging Demonstration Pilot	The proposal was reviewed and approved by the Trustees on Feb 5, 2020. The budget was revised and approved June 2020	Dr. Mike Dockery notified UA of the Trustees' approval Trustees were notified of the revised budget and approved no-cost revisions
		A Funding Request "Centralized, telephone-based, computer-assisted…Spanish" for $129,000 was submitted in April 2021 by Dr. Ron Lazar	Reviewed by Cmte in July and not recommended	This request was reviewed by the Trustees in July 2021 and was denied. Suggestion was provided to Dr. Lazar to work though MBI Core Committee if he chooses to resubmit.
		UM submitted a request for $ 3 million to endow a Neurocognitive Training Fund in Brain Health and Aging. UM submitted a request for $250,000 to co-fund a fellowship over 5 years – The Evelyn F. McKnight Neurocognitive Clinical Scholar in Brain Health and Aging"	July 1, 2021 October 2021 Research Cmte reviewed on October 21, 2021; Recommended funding; Trustees reviewed and approved funding October 28, 2021 Grant Notification Memorandum was dated Nov. 10, 2021	This request was denied by Trustees on July 28, 2021, but Dr. Lee Dockery was asked to pursue conversations with UM about how they might proceed. Dr. Dockery had several conversations and exchanges with UM with ideas for strengthening the program infrastructure. A memorandum notifying UM of the approval for funding the Evelyn F. McKnight Neurocognitive Clinical Scholar in Brain Health and Aging for a total of $250,000 ($50,000 over 5 years) to be matched by UM was sent by Dr. Mike Dockery to UM and agreed to and signed by Drs. Sacco and Rundek.

"Encourage and assess research at the McKnight Brain Institutes (MBIs)" continued	Review of Travel Award Fund: Originally established to fund research scholars and faculty to visit other McKnight institutions.	Few applications for travel. The funds allocated for travel have been used to fund the activities of focus groups: Epigenetics, MRI standardization and cognitive test battery working group	Reviewed at each Trustees' Meeting ON HOLD DUE TO UNIVERSITY TRAVEL RESTRICTIONS	Approved in 2009 In the amount of $100,000 Approximately $30,000 remains in the fund
	Inter-institutional Block Grants	Cognitive Aging Core Working Groups	N/A	5 Areas: Brain and Cognitive Health Cognitive Aging & Memory Cognitive Testing Battery Epigenetics MRI standardization
	Inter-institutional Block Grants	Bio-Informatics Core (Epigenetics)	Funding period: 9/1/2013-8/31/2015	Tom Foster, UF still lead scientist.
	Inter-institutional Block Grants	Neuroimaging Core	Funding period: 1/1/2015 to 12/31/2017 $931,759.00	
	Inter-institutional Block Grants	Cognitive Assessment and Brain Registry Core	Funding period: 9/1/2015-8/31/2017 Request for another extension was approved at the Feb 5, 2020, Trustees' meeting.	No-cost Extension Request submitted for April 30, 2021. Trustees approved the extension.
	Review of Pilot Grants (Funding Requests and Progress Reports)	1)A Novel Invention Tool – Levin 2)Revitalizing Cognition in Older Adults – Bowers	1)Funding Period: 5/1/2018-4/30/2020 2)Funding period: 5/1/2018-4/30/2020	1)Funding for 2-years for total of $120,000 2)Funding for 2-years for total of $120,000

				No-cost Extension Request submitted and approved for April 30, 2021.
		3)Transcutaneous Vagal Nerve Stimulation and Cognition Training – Williamson/Alexander	3)Approved July 2019 Funding period: 10/1/2019-9/30/2021 Deadline was extended	3)Funding for 2-years for total of $120,000
			Request for no-cost Extension	Trustees approved at their August 29, 2022 meeting
	Applications for 2021 Pilot Grants	5 Letters of Intent were Submitted	Research Cmte Reviewed LOIs for 2020 Jan. 29, 2021.	Trustees approved 3 grants
		3 Grants were approved	Feb. 26, 2021	
		With Dr. Gomes-Osman's subsequent departure from UM, the Core Committee recommended the next application in line to replace Dr. Gomes-Osman's. This was submitted by Dr. Sonya Kaur "Sleep Intervention…"	The Research Cmte did not recommend funding the next-in-line proposal in its July 2021 meeting "Reuniting the Brain and Body to Understand Cognitive Aging: The Nexus of Geroscience and Neuroscience" pilot grant August 2022	The Trustees denied funding and setting this precedent in its July 2021 meeting. Dr. Rundek was notified. Interim Report submitted. Trustees reviewed and approved on August 29, 2022
	Checked RFA for 2022 before it was posted to be sure it stresses Junior Faculty. It does.	Drs. Lazar and Levin shared that only 1 LOI was received for 2022 funding cycle.	January 31, 2022 Leadership Council Meeting attended by Drs. Thambisetty and Mike Dockery and A. Porter	Several reasons for only 1 LOI were cited. The Leadership Council drafted a new RFA to address these reasons and broaden the scope of the research for Trustee review at their February meeting

			February 23, 2022 September 12, 2022	Dr. Mike Dockery, on behalf of the Trustees, responded to the LC and the members of the Core Committee that they did not wish to change the focus of the pilot grant program by changing the RFA Dr. Mike Dockery, on behalf of the Trustees, and Angelika Schlanger attended the Leadership Council meeting and asked the Council to follow up with the MBRF on the status of the Cognitive Aging and Memory Intervention Core Workgroup, in terms of its membership and plans to respond to the Memo from February 23, 2022.
	2023 Pilot Grants	5 Applications Submitted on February 7, 2023 via Ron Lazar and Bonnie Levin. The research Committee approved three of the pilot grant applications.	March 28, 2023	Dr. Sonya Kaur (PI): "Feasibility of a Timed Bright Light Exposure Therapy to Improve Circadian Function" Dr. Farah Lubin (PI): "Ketogenic Diet Improvement of Age-Related Memory Impairments, Nominates Cell-type Specific O-GicNAc Deficiencies in the Aged Hippocampus" Dr. Joseph Signorile (PI): "Cued High-Speed Multidirectional Yoga: Impact on Retinal Microvascular

				and Cognitive Measures"
"Identify opportunities…to foster greater interest in cognitive aging and age-related memory loss (in the scientific community)"	Research Partnership with the Foundation for NIH and the NIA. 1st cycle-2009, 2nd cycle-2014 3rd cycle approved 2019 to begin Spring of 2020	Fund balance of $1 million from 2nd five-year partnership returned to MBRF Report received on all FNIH/MBRF activities RFA posted: "Network for Identification, Evaluation, and Tracking of Older Persons with Superior Cognitive Performance for Age" FNIH Report submitted For information only	DONE August 2019 FNIH Report in October 2019 had an error. A corrected report resubmitted on Feb. 5, 2020. Posted Feb 2020; Deadline LOI Sept. 1; Application October 1, 2020 First payment was made to FNIH by March 31, 2021. Will continue until 2025 Dr. Molly Wagster will be attending the March 23-25 Inter-institutional Meeting at UA. The Trustees have invited her to present at their	History: Established 2009 $5 M over 5 years from MBRF; match from NIA and partners was $23 M for total of $28 M (17 five-year grants funded) 2014 Partnership renewal funded one 5-year project for $15 million with $5 M from MBRF and $10 M from NIA Valerie connected with Julie Wolf-Rodda and Molly Wagster on promoting STARRS study. NIA will provide $14M to be pooled with MBRF $5 M. A 2.8 Match. RFA was shared with Communications Working Group for posting and with Leadership Council. Two grants were provided from the Research Partnership ""Network for Identification, Evaluation and Tracking of Older Persons with Superior Cognitive Performance for their Chronological Age" to Dr. Thomas

			meeting on March 23, and to the idea of inviting the grantees for a video presentation. Dr. Julie Gerberding, Julie Wolf-Rodda, FNIH, and Dr. Molly Wagster, NIA, attended MBRF Trustees Meeting on October 27, 2022, in DC Planning for CAS IV is underway. The date and location will be March 20-21, 2024 in Bethesda, MD	Perls, Boston University, and Dr. Emily Rogalski.
"Identify opportunities…to foster greater interest in cognitive aging and age-related memory loss (in the scientific community)"	MBRF Innovators Awards in Cognitive Aging and Memory Loss The McKnight Brain Research Foundation committed $4.5 million over the next five years to support outstanding mid-career scientists committed to researching the basic biological mechanisms underlying cognitive aging and memory loss.	Program was Approved by the Trustees Potential administrative and/or funding partners were approached American Federation of Aging Research (AFAR) was identified as an excellent partner organization. AFAR presented a proposal and draft contract for review Revised Agreement signed between AFAR and the MBRF	October 14, 2020 December 2020 January 2021 February 2021 2021 July 15, 2021 August 2021 Mid Oct. 2021 Dec. 15, 2021 March 2022 2022	AFAR Review Committee: Chair: Dr. Anna Maria Cuervo Members: Dr. Rafa de Cabo Dr. Thambisetty Dr. Boyle and Dr. Roz Anderson LOI Deadline – 9 LOIs Received LOI Review – 7 applicants asked to submit full application Application Deadline Award Announcement

			August 2, 2022 September 19, 2022 December 7, 2022 July 31, 2023 Sept 7, 2023	*LOI Submission and review was eliminated due to the small number of applicants in 2021* Application Deadline Application Review – 4 applied. Award Announcement 2023 5 Applications Received Dr. Roy Hamilton joined the review committee Application Review
	Reserve & Resilience Workshop 2019 Reserve & Resilience Workshop Pilot Grants 2020 Reserve & Resilience Workshop 2021 Reserve & Resilience Workshop 2023	Over 300 Attendees (8 MBI researchers) Organizers requested $30,000 to support (1 – 3) pilot grants	September 9 and 10th, 2019 Bethesda In-Person Meeting CHANGED TO VIRTUAL MTG September 14 and 15, 2020; Report Submitted Jan. 2021 Oct 31/Nov 1 Bethesda Meeting will be a hybrid – part virtual and part person. The program is posted on reserveandresilience.com. Of note, Jen Bizon and Tom Foster are panelists.	This is an outcome from Cog. Aging Summit III held in 2017. Research Committee approved support in first and second years. Dr. Stern requested support for the Final R & R Workshop (#4) to take place Oct. 31/Nov. 1 in Bethesda. He did not request a specific amount but support MBRF provided last year was $30,000. Committee supports recommendation to fund at no more than $30,000, and full board approved the grant on July 24, 2023.

			In-person meeting will take place on September 21 – 22, 2023 in Bethesda, MD on "Data Sharing." Panelists include Carol Barnes, Matt Huntelman, Thomas Foster, PhD, and Sara Burke.	Final Report was submitted by Dr. Stern and will be reviewed by the Research Committee on January 29, 2024
"Encourage young investigators in this area of research"	McKnight Brain Research Foundation Clinical Translational Research Scholarship with American Academy of Neurology (AAN) and American Brain Foundation (ABF)	2021-2022 MBRF Reviewers are Dr. Boyle, Dr. Thambisetty, and Dr. Isaacson	Reviewers meet in Dec. Two Scholars are selected and alternates were identified. Awardees are notified in January. Funding starts July 1 of each cycle Edits to 2021 RFA were made and approved by Research Cmte. RFA was posted as of July 4, 2020, on AAN site. Advertising followed 2019 Plan for 2020 Award and begin in August, 2020. 8 applications for 2021 were received. October 14, 2020, Renewal for next five years was approved by the Trustees 2022-23 Deadlines	<u>First Scholarships Awarded</u> January 2018 (McConnell, Albert) <u>Second Scholarships</u> Awarded January 2019 (Camargo, Sedaghat) <u>Third Scholarships</u> Awarded January 2020 (Baxter, Getz) <u>Fourth Scholarships</u> were Awarded in January 2021 to Dr. Wendy Yau Wai-Ying (Brigham and Women's) and ~~Dr. Matthew Burns (UF)~~ Dr. Reem Waziry (Publicly announced in April 2021 (Dr. Matthew Burns [UF] received a K-Award from NIA and had to decline the McKnight Scholarship.) <u>Fifth Scholarships</u> Advertising was conducted in August and September 5 Applications received Oct. 1. Review was in Dec. 2021 <u>Sixth Scholarships</u>

		Members of the 2022-23 Review Committee include Dr. Madhav Thambisetty and Dr. Patricia Boyle Members of the 2023-24 Review Committee include Dr. Madhav Thambisetty, Dr. Patricia Boyle, and Dr. Roy Hamilton	September 1, 2022 Application Deadline Spring 2023 Announcement of Recipients The review committee met In November, 2023.	New 2022-23 RFA Draft was reviewed and has been posted and advertised - 9 applications were reviewed 2023 Scholars Announced (Drs. Eva Klinman, MD, PhD and Sheena Baratano, MD, PhD) Seventh Scholarships Two applications were submitted to the MBRF Award mechanism, and one was awarded to Haopei Yang, PhD. The Trustees determined that the other project did not align with the scope or spirit of the award guidelines.
"Encourage young investigators…" Continued	Poster Reception at 2019 Society for Neuroscience annual meeting (Chicago) MBRF/MBI Poster Reception 2020 Society for Neuroscience (SfN) annual meeting in DC October 24 – 28, 2020 canceled due to DC pandemic closing guidelines Society for Neuroscience will meet in San Diego Nov 12 - 16		October 20, 2019 August 29, 2022 September 5, 2022	First Poster Reception held in 2008. (50 submissions received) Sponsored by MBRF. Hosted by Directors of MBIs. Submissions open to researchers at MBIs and invited guests only MBRF Trustees Decided not to host the MBRF/MBI Poster session at the 2022 meeting. Dr. Mike Dockery updated the Leadership Council on Sept. 12, 2022 by Zoom. Dr. Mike Dockery wrote to the Leadership Council to ensure it will take place in 2023.

	Society for Neuroscience will meet in DC, Nov 11 - 15		September 1, 2022	Ms. Porter wrote to Dr. Molly Wagster to alert her that the poster reception will not take place this year. The poster session took place on Nov 12, 2023, planned by Vicki Hixon. Dr. Thambisetty represented the MBRF. Sixty-seven abstracts were submitted.

Cognitive Aging and Memory Intervention (CAMI) Core Pilot Grant Program

To: Mike Dockery, MD, Chairman of the McKnight Brain Research Foundation (MBRF)

From: Inter-Institutional McKnight Leadership Council (University of Florida: Jen Bizon, PhD, Sara Burke, PhD, Adam Woods, PhD; University of Miami: Tatjana Rundek, PhD, MD, Bonnie Levin, PhD; University of Alabama: Ron Lazar, PhD, FAHA, FAAN, Kristina Visscher, PhD; University of Arizona: Carol Barnes, PhD, Lee Ryan, PhD)

Subject: Recommendations for Inter-Institutional Implementation of the CAMI Core Pilot Grant Program

BACKGROUND: In August 2023 the Inter-Institutional Leadership Council submitted a series of recommendations to the MBRF Trustees for maximizing the impact of MBRF's continued investments in Inter-Institutional efforts. Among these recommendations was "Creating an Infrastructure for the Inter-Institutional Pilot Grant Funding Mechanism." In response to that recommendation, the MBRF Trustees requested the reconstitution of the CAMI Core to run the Pilot Grant Program and recommended that this Core include equal representation of the MBIs and key individuals who will champion and promote this program within and across the MBI sites. The Trustees also asked to engage with the Leadership Council regarding a proposed plan for future implementation of the CAMI Core Pilot Grant Mechanism. This document is a consensus proposal from the Leadership Council for revitalizing and organizing a robust CAMI Core Pilot Grant Program that is sustainable. We thank the MBRF Trustees for their time and consideration and look forward to future discussions regarding this important Inter-Institutional initiative.

CHALLENGES. In the past several years, there have been a limited number of submissions to the pilot program. The Council's opinion is that this is partly because it is extremely challenging to conduct a high-quality intervention pilot across multiple sites within the scope of the award mechanism as it is currently designed. Moreover, it has become clear after administering several rounds of these grants that coordinating a robust pilot mechanism across all four institutes requires a not-yet-established centralized administrative infrastructure that (1) retains core historical knowledge about the program year-to-year, (2) efficiently facilitates Inter-Institutional communication, and (3) offers administrative support for the rotating Pilot Program Leaders. The Leadership Council's consensus plan for the implementation of the CAMI Core Pilot Grant Program is designed to address each of these Challenges.

PROPOSED 2024/2025 PILOT GRANT PROGRAM:
Based on the Trustees' recommendation that the CAMI Core consist of members from each of the four MBIs, each institute nominated one member to serve a 2- to 3-year term. Sara Burke (UF) has agreed to serve as Chair for the CAMI Core for the initial 3-year period, joined by a Co-Chair in year 3 who will take over Chair role in the subsequent year. The full committee includes:

CAMI Core Members:
Sara Burke, Chair burkes@ufl.edu (UF, 2024-2026)
Ihtsham ul Haq ihaq@med.miami.edu (UMiami, 2024-2025)
Matthew Grilli mdgrilli@arizona.edu (UA, 2024-2026)
Keith McGregor kmmcgreg@uab.edu (UAB, 2024-2025)

The roles of the CAMI Core members will be: 1) assist with drafting the annual request for applications (RFA) at the beginning of each year, 2) serve as a champion of the CAMI Core Pilot Grant Program at their home institution and solicit applications, 3) screen and select letters of intent for full applications annually in July/August, 4) nominate potential external reviewers, 5) review 1-3 applications, and 6) participate in a review panel discussion session over zoom, with other committee members and MBI/external reviewers, as needed.

When the term of a CAMI Core member is complete, if they decide not to volunteer again, they will be replaced by another faculty member at their home institution to be nominated by Council Leadership

from that institution. CAMI Core members will be selected from previous Pilot Grant Awardees if possible. To ensure continuity of knowledge of the CAMI Core structure and Pilot Grant Program process, terms of service for the CAMI Core members will be staggered so that there are always at least 2 members that served in the previous year.

Role of the Chair: The chair will serve as the liaison between the CAMI Core Committee and Leadership Council to facilitate communication. The chair will also organize CAMI Core meetings, oversee drafting the annual RFA with the CAMI Core Committee based on recommendations from the Leadership Council, invite external reviewers, and organize the zoom review session. The Chair will also serve as the main liaison for the CAMI Core Pilot Grant Program to the MBRF Trustees by providing the annual timeline and updates regarding key steps in the process (for example, how many LOIs were received and how many were advanced). The Chair will also communicate any priority research areas recommended by the CAMI Core Committee and Leadership Council to the MBRF and ensure that the RFA aligns with any areas of focus being prioritized by both groups. Relatedly, the Chair will ensure that the RFA draft language is approved by the MBRF before distribution. Finally, after the scientific review is completed and funding recommendations have been made to the Trustees, the CAMI Core Chair will report to the Leadership Council a summary of the review discussion. This will ensure clear and efficient communication between the CAMI Core, MBRF Trustees, and Leadership Council even if the CAMI Core does not include a member from the Council in future years.

COMMUNICATION STRATEGY: As documented in the August 2023 Leadership Council recommendations to the MBRF trustees, the number of submissions to the Pilot Grant Program has been declining over the past several years. To increase the number of applications, the Leadership Council has the following suggestions:

1) CAMI Core members will serve as champions of the Pilot Grants for their home institutions, solicit submissions, and facilitate collaborations across the MBIs.
2) The RFA will be announced at the annual MBRF Inter-Institutional meeting, which will help facilitate new collaborations and raise awareness of the funding opportunity.
3) The Pilot Grant will also be announced on the Inter-Institutional directory established to facilitate communication regarding the annual meeting (that is, the Wild Apricot site). The development of this site is currently underway. It will contain the directory of all MBI-affiliated investigators and will be updated annually to support the Inter-Institutional meeting.
4) The previous year's awardees will continue to be featured with short talks at the Inter-Institutional MBRF meetings to enhance the visibility of this program.

REVIEWERS: A major barrier to the sustainability of the CAMI Core Intervention Pilot Grant Program was finding reviewers. Each pilot grant application requires faculty from at least 2 MBIs to collaborate to be eligible for this funding opportunity. Because it is a conflict of interest to have faculty members review grants submitted from their home institution, it is necessary to recruit reviewers from the MBIs as well as from outside the four institutes to provide an unbiased and expert evaluation of the science in each proposal. The Leadership Council and CAMI Core Committee has discussed how to facilitate the review of grants and has the following recommendations:

1) In addition to the CAMI Core Committee, 2-4 investigators from across the MBI sites will participate in the review. These reviewers will be invited from previous awardees. The Leadership Council and CAMI Core Committee recommend that the Notice of Award include a clause that awardees are expected to participate in at least one Pilot Grant Review Panel.
2) External reviewers will be invited to serve on the CAMI Core Pilot Grant Review Panel when LOIs are selected for full applications. This will ensure that sufficient numbers of reviewers with relevant expertise are available to participate in the review panel discussion and that each grant receives at least 3 independent reviews. Reviewers will be invited by the Chair based on the recommendations of CAMI Core Committee members. Depending on the number of LOIs selected to submit full grants, it is anticipated that approximately 4 external reviewers will be invited each year.
3) External reviewers will receive an evaluation rubric to score each grant and will be expected to review 3-4 grants and participate in a Zoom review discussion.

4) External reviewers will receive modest monetary compensation of $200 for their service. This is comparable to what the NIH pays investigators who serve on a scientific review panel.
5) The Leadership council also recommends that external reviewers receive a thank you letter from the MBRF to document their service. This will be helpful for investigators seeking promotion because service on review panels is an important metric for showing national recognition of scientific expertise.
6) After the review panel is completed, anonymized reviews will be available to Pilot Grant applicants. These can help with the preparation of future applications, particularly for new investigators.

BUDGET: Since the initial MBRF investment in the CAMI Core Pilot Grant Program, there has been considerable inflation in the costs associated with conducting science, largely attributable to increases in salary for study staff, rising costs of reagents and consumables, as well as higher fees for the use of core services at most institutions. Several members of the Leadership Council have expressed concerns that the current budget of the pilot grants of $60,000/year for 2 years is not sufficient to collect human clinical intervention data, limiting the number of investigators willing to apply. Investigators running intervention studies in pre-clinical models have not expressed concerns with the budget, underscoring the utility of having different budgetary limits for pre-clinical versus clinical research. The Leadership Council and CAMI Core Committee have identified several potential opportunities to overcome these budgetary challenges that would require different levels of investment from the MBRF. These opportunities include:

1) An overall budget-neutral solution would be to reduce the budget for pre-clinical studies to $50,000/year while increasing the budget for clinical intervention studies to $70,000/year.
2) An alternative budget-neutral solution for increasing award amounts would be to only award new pilot grants in odd years (e.g., 2025, 2027) with even years corresponding to Year 2 budgets and then doubling the amount of each award (i.e., $100,000 for preclinical and $140,000 for clinical). This solution would also likely increase the number of submissions.
3) Since the cost of conducting research has increased since the initiation of the CAMI Core pilot grant program, an alternate solution that would likely increase the number of grant submissions and require a modest increased investment from the MBRF would be to retain the current pre-clinical budget of $60,000/year and increase the clinical budget to $80,000/year.
4) Given that it is incredibly difficult to collect clinical data at two different MBI sites with a reasonable pilot budget in 2 years, the CAMI Core Committee and Leadership Council also recommend that the Pilot Grant RFA clarify that the multi-site collaboration can include one or more of the following: A) collecting new data at multiple MBIs, B) supplying analytical/quantitative resources, C) formal mentorship for new investigators, D) tissue or other samples that have already been collected, or E) access to other legacy data. We also recommend that the full grant application ask for a team science/multiple-Principal Investigator plan as part of the submission that will be reviewed during the evaluation process.
5) Importantly, the budget of a CAMI Core Pilot Grant is scaled to provide preliminary data to seed proposals for larger grant applications to the NIH or other funding sectors, rather than to complete a full study for publication, which would likely require a considerably larger budget. Thus, the leadership council recommends that all CAMI Core Pilot Grant proposals include both a detailed proposed budget justification and a plan for obtaining external funding.

CAMI CORE PILOT GRANT SCIENTIFIC REVIEW PANEL: The consensus recommendation is that all submitted CAMI Core Pilot Grant applications will be discussed and scored by members of the scientific review panel, comprised of the external reviewers as well as CAMI Core Committee members and other MBI investigators from outside of the PIs home institutions. Scientific review panels will include a chair who runs the meetings and summarizes the discussion. This role will be filled by the CAMI Core Committee Chair, or Co-Chair (selected from the CAMI Core Committee) when a proposal involves the Chair's institution. If both the Chair and Co-Chair have a conflict, then the Chair will choose a review panel chair from among the non-conflicted panelists. Scientific review panel meetings will also include a Scientific Review Officer (SRO) who takes notes of the discussion and compiles the final grant scores. The SRO serves in an administrative capacity and does not participate in the written grant reviews or discussion of the science. The Leadership Council

recommends that a member of the MBRF serve in the role of SRO to facilitate communication between the CAMI Core Committee and the MBRF Trustees. The SRO can also provide insight regarding funding priorities of the MBRF to ensure that CAMI Core Pilot Grants and the MBRF Mission are aligned. These meetings will occur annually over Zoom and will take approximately 4 hours.

To facilitate career development of new investigators (maximum rank of Assistant Professor or Postdoctoral Scholar and no prior funding as a primary PI excepting non-training grants), the Leadership Council and CAMI Core Committee also recommend separate scoring criteria for new and established investigators. New investigators will submit a 1-page mentoring plan and timeline as part of the grant application. Grant funding recommendations will be based on evaluation discussion and scoring. It is recommended that there be no quota for funding a certain number of either junior or established PIs, while taking into account the importance of early support in launching a scientific career.

ROLE OF MBRF TRUSTEES AND GRANT ADMINISTRATION: Following the Scientific Review Panel, the CAMI Core Committee will submit funding recommendations to the MBRF for the final award decision. The MBRF will also collect annual interim reports required before the disbursement of Year 2 funds. The CAMI Core Committee and MBRF will work together to evaluate the annual progress and determine if Year 1 progress was sufficient to release Year 2 funds. The Leadership Council also recommends that the MBRF keep all historical documents regarding submissions, reviews, funding, and final outcomes. The CAMI Core Committee could work with the MBRF to establish a shared repository with this information, with access given to the MBRF and the CAMI Committee Chair.

PROPOSED TIMELINE: Once the Leadership Council and MBRF trustees agree on a new structure for the CAMI Core Pilot Grant Program, we propose the following timeline:

January 2024: Develop a Communication Plan for CAMI Core – Wild Apricot and MBI websites, Listservs, contacts at institutions with each CAMI Core committee member.

February-March 2024: First CAMI Core Committee meeting to draft RFA for MBRF trustee approval.

May 15, 2024: Launch RFA at the MBRF Inter-institutional Meeting.

July 1, 2024: LOI due.

August 1, 2024: CAMI Core Committee selects LOIs for full proposal, nominates external reviewers, and invitations are sent by CAMI Core Chair.

November 15, 2024: Full application due.

November 25, 2024: Review assignments distributed to Committee Members and External Reviewers.

December 15, 2024: Reviews due.

January 2025: Zoom CAMI Core Scientific Review Panel with all committee members, 4-5 external reviewers, the Executive Director, and MBRF Trustee representing the Research Committee.

February 1, 2025: Recommendations for funding to Trustees, meeting with Leadership Council in February to de-debrief funding recommendations and revise RFA for the following year.

March 2025: MBRF will send Notice of Awards and MOUs for funding disbursement.

May 1, 2025: Tentative Grant start date.

April 1, 2026: Year 1 grant progress report due to MBRF Trustees to secure Year 2 funding by May 1, 2026.

Generating Aligned Applications for
McKnight Clinical Translational Research Fellowships

Generating sufficient applications for the McKnight Clinical Translational Research Fellowships while balancing the spirit of the funding opportunity has presented challenges in recent application cycles. ABF proposes the following strategies to increase engagement with the award opportunities, and generate applications aligned with the award RFP.

Applicant education: Cognitive aging, because of its interdisciplinary focus, may require additional explanation to applicants, in contrast to disease-specific awards, which tend to be more straightforward and simpler for researchers to understand. In the 2024 grant cycle, MBRF added language to the award RFP to further clarify eligibility requirements. While this language did appear to deter most applicants whose research focused on neurodegenerative diseases, it did not *encourage* applicants to apply.

For the 2025 grant cycle, an informal webinar for prospective applicants could offer an opportunity to educate and excite prospective applicants about the McKnight scholarship opportunities. The AAN hosted a similar informational webinar in 2021, which has since served as a helpful companion to a written FAQ for applicants. A link to that webinar can be found on the AAN's Research Program website.

ABF recommends that this webinar be led by an MBRF Trustee who has reviewed applications in the past, and can speak to the components of a successful application and the types of research that could be funded through the MBRF scholarships. Two or three past recipients could speak to their experience with the application process and their research, with time at the end of the webinar for questions from prospective applicants. ABF and MBRF would link to the webinar when promoting the award opportunities, and a link could be included in the award RFP.

ABF is also planning targeted, informal applicant education opportunities at the upcoming AAN annual meeting in April. A "Meet the Researcher" opportunity each day will give prospective applicants an opportunity to speak with a past scholarship recipient who can offer advice on the application process. ABF will also film informal videos with past scholarship recipients, which will be shared online and on social media. For both opportunities, ABF will prioritize MBRF alumni, pending their availability at the meeting, and can provide talking points on cognitive aging.

Finally, including examples of successful past applications may help prospective applicants better understand the goals of the MBRF scholarships. Examples of past projects are already available on both the MBRF and ABF websites, and could be linked in the award RFP and in conjunction with marketing and outreach.

Applicant outreach: In addition to the robust marketing efforts of the ABF and AAN, there is opportunity for peer-to-peer promotion of the award opportunities. The MBRF scholarships do

not require that applicants be AAN members – a requirement for most other awards offered through this program – which reduces a major barrier to entry and expands eligibility to many more prospective researchers.

Working with MBRF's other partner organization, AFAR, as well as other organizations with a stated interest in cognitive aging research, such as the American Heart Association, American Psychological Association, Alzheimer's Association, and the Gerontological Society of America, we have an opportunity to reach a broader audience. Enlisting past recipients and program alumni to spread the word about these award opportunities may also help to generate greater awareness among prospective applicants.

Other factors: In even years, ABF offers disease-specific awards in Alzheimer's and Dementia Research and in Lewy Body Diseases. Applicants may gravitate towards these disease-oriented awards, reducing the number of applications for the McKnight scholarships. In odd years when these disease-specific awards are not available, applicants may have greater incentive to frame their research to fit the criteria for the MBRF awards.

4th Workshop on Research Definitions for Reserve & Resilience in Cognitive Aging and Dementia

Bethesda, MD – December 4-5, 2023

REPORT

Collaboratory on Research Definitions for Reserve & Resilience

4th Workshop on Research Definitions for Reserve & Resilience in Cognitive Aging and Dementia

December 4-5, 2023 • Bethesda, MD – USA

Introduction

The goal of the **NIA-supported Collaboratory on Research Definitions Collaboratory** has been to develop operational definitions, research guidelines, and data sharing platforms with consensus and assistance from the research community.

To reach its goal the Collaboratory had previously held **three cross-discipline workshops** that brought together investigators to discuss and come to consensus on these concepts, create focused work groups that will examine each of these issues, **fund pilot grants** designed to further the understanding and research applicability of these concepts, and to **develop data sharing and information exchange platforms** to help guide research in this area. The major outcome of this process was a Framework that summarized consensus descriptions of three key concepts related to reserve and resilience, and supplied operational definitions for each concept. This Framework has been published in the Neurobiology of Aging journal.

The 4th Workshop of the Collaboratory, supported in part by NIH, AARP, McKnight Brain Research Foundation and Alzheimer's Association, was held in person and virtually on the 4th and 5th of December, 2023, at the Marriott Bethesda, Bethesda, MD.

The meeting brought together individuals from various parts of the world to discuss how to move forward research on cognitive reserve and resilience in aging using shared data. The overall goal of the workshop was to inform the attendees about the process of the sharing, and the best practices in sharing study data and using shared data.

The half-day of the program focused on specific examples of data sharing and management challenges in reserve and resilience research . This included a review of the progress of the initial three workshops,

followed by discussions of the challenges and potential solutions related to data sharing in neuroscience research, alongside the challenges and benefits of using data sharing in research.

The remainder of the program focused on developing groups of attendees that would work together on specific studies of aspects of reserve and resilience using shared data. Our challenge was to identify common interests across the workshop attendees and nurture the process of developing research ideas and designs that they could work on together in the future.

Workshop Format

The workshop was led over 2 days. The first half day of the workshop consisted of presentations, panel discussions. By the second half of the day, there were separate breakout sessions for human and nonhuman investigators that were designed to begin to generate discuss and define specific research projects that groups of attendees would be interested in working on together. These were then reported back to the entire group in plenary format. This process resulted in eight separate groups of investigators with interests in specific research questions that could be addressed using shared data.

On the second day of the workshop, these smaller breakout groups met to better specify and design the actual projects that they would hope to work on in the future.

It is important to stress that we relied on a group process to allow the attendees to designate and design the areas of research that were of greatest common interest. This process was very successful, and eight workgroups were formed:

1. Contributions of modifiable lifestyle factors across the life course to cognitive resilience
2. Functional networks underlying cognitive reserve
3. Molecular contributions to cognitive reserve
4. Multifactor associations with intercept and change of brain and cognition
5. Studying cognitive reserve in non-human cohorts by sharing common memory task data across several laboratories.
6. Sociocultural factors and cognitive resilience
7. The interaction of physical activity and stress on cognitive performance
8. Women's reproductive influences on the spectrum of dementia and memory

It was very exciting to see the attendees coalesce into groups discussing research of common interest. The workshop process successfully resulted in concrete plans for unique and interesting projects using shared data. We are now working on establishing resources to help these groups move forward and continue to work on these studies.

Program

Sunday, December 3, 2023		
6:00-8:00 pm	**Welcome Reception**	
Monday, December 4, 2023		
8:00-8:50am	**Breakfast**	
8:00–8:50am	**Mentoring Session/Meet with Senior Researchers**	
9:00-9:10am	**Workshop – Introduction, Structure, Engagement**	**Yaakov Stern, PhD,** *Columbia University*
9:10-9:35am	**Making Data Sharable**	**Marilyn Albert, PhD,** *Johns Hopkins University*
9:10am	**SESSION 1** **PLENARY: Two "Framing" Talks**	
9:35-9:50am	**Planning to Share Data**	**Peter Rapp, PhD,** *NIH/NIA*
9:50-10:05am	**Discussion**	
10:05am	**SESSION 2** **PLENARY: Nodes of sharing**	
10:05-10:20am	**Making Large-scale Behavioral Research Available: Longitudinal Data, Strain, Sex**	**Catherine Kaczorowski, PhD,** *The Jackson Laboratory*
10:20-10:35am	**Sharing Longitudinal Studies**	**Kristine Beate Walhovd, PhD,** *University of Oslo*
10:35-10:50am	**Discussion**	
10:50-11:20am	**Coffee Break**	
11:20-11:50am	**Program Priorities in Cognitive Aging and Reserve**	**Molly Wagster, PhD,** *NIH/NIA*
11:50am-12:00pm	**Data sharing NIA expectations**	**Jennie Larkin, PhD,** *NIH/NIA*
12:00-12:25pm	**Discussion**	
12:25-12:35pm	**BREAKOUT SESSION:** Introduction	**Yaakov Stern, PhD,** *Columbia University*
12:35-1:30pm	**Lunch**	
1:30pm	**SESSION 3** **BREAKOUT SESSION – NON-HUMAN AND HUMAN COHORTS** *Topic 1: Overcoming data sharing challenges* *Topic 2: Generating ideas for data sharing projects*	
1:30-4:00pm	**Non-Human Breakout Group** **Data-sharing Challenges**	DISCUSSION LEADERS **Carol Barnes, PhD,** *University of Arizona* **Matt Huentelman, PhD,** *TGen* Panel: **Thomas Foster, PhD,** *University of Florida* **Audrey Branch, PhD,** *Johns Hopkins University* **John Disterhoft, PhD,** *Northwestern University* **Peter Rapp, PhD,** *NIH/NIA*
	Human Breakout Group	Discussion Leader: **Scott Hofer, PhD,** *University of Victoria* Panel: **Yaakov Stern, PhD,** *Columbia University* **Marilyn Albert, PhD,** *Johns Hopkins University* **Bill Jagust, MD,** *University of California, Berkeley*

	Data-sharing Challenges	**Emrah Düzel, MD,** *German Center for Neurodegenerative Diseases* **Christian Habeck, PhD,** *Columbia University*
2:30-3:00pm	**Coffee Break**	
3:00-4:00pm	**NON-HUMAN COHORT BREAKOUT** (cont.) **Project Idea Generation**	Discussion Leaders: **Carol Barnes, PhD,** University of Arizona **Matt Huentelman, PhD,** *TGen* Panel: **Thomas Foster, PhD,** *University of Florida* **Michela Gallagher, PhD,** *Johns Hopkins University* **John Disterhoft, PhD,** *Northwestern University* **Peter Rapp, PhD,** *NIH/NIA*
	HUMAN COHORT BREAKOUT (cont.) **Project Idea Generation**	DISCUSSION LEADERS **Scott Hofer, PhD,** *University of Victoria* PANEL: **Yaakov Stern, PhD,** *Columbia University* **Marilyn Albert, PhD,** *Johns Hopkins University* **Bill Jagust, MD,** *University of California, Berkeley* **Emrah Düzel, MD,** *German Center for Neurodegenerative Diseases* **Christian Habeck, PhD,** *Columbia University*
4:00-4:20pm	**REPORT: Non-human Cohort Breakout Group**	DISCUSSION LEADERS: **Carol Barnes, PhD,** *University of Arizona* **Matt Huntelman, PhD,** *Tgen* PANEL: **Thomas Foster, PhD,** *University of Florida* **Audrey Branch, PhD,** *Johns Hopkins University* **John Disterhoft, PhD,** *Northwestern University* **Peter Rapp, PhD,** *NIH/NIA*
4:20-4:40pm	**REPORT: Human Cohort Breakout Group**	DISCUSSION LEADER **Scott Hofer, PhD,** *University of Victoria* PANEL: **Yaakov Stern, PhD,** *Columbia University* **Marilyn Albert, PhD,** *Johns Hopkins University* **Bill Jagust, MD,** *University of California, Berkeley* **Emrah Düzel, MD,***German Center for Neurodegenerative Diseases* **Christian Habeck, PhD,** *Columbia University*
4:40-5:15pm	**Charge for Day 2**	**Yaakov Stern, PhD,** *Columbia University*
5:15–7:00pm	**Networking Reception**	
Tuesday, December 5, 2023		
7:30-8:30am	**Breakfast**	
7:45-8:25am	**Mentoring Session/Meet with Senior Researchers**	
8:30-10:00am	**SESSION 4** **BREAKOUT SESSION**	
8:30-10:00am	**NON-HUMAN AND HUMAN COHORT GROUPS** **DISCUSS CONCRETE PROJECTS**	
10:00-10:30am	**Coffee Break**	
	NON-HUMAN COHORT BREAKOUT **Concrete Projects** **from Project Ideas Generated on DAY 1**	**Carol Barnes, PhD,** *University of Arizona* **Matt Huentelman, PhD,** *TGen*
	HUMAN COHORT BREAKOUT	**Scott Hofer, PhD,** *University of Victoria*

10:30-11:30am	**Concrete Projects from Project Ideas Generated on DAY 1**	**Yaakov Stern, PhD,** *Columbia University*
11:30am-12:20pm	**SESSION 5** **PLENARY: REPORTS**	
11:30-11:55am	**Report non-human breakout group**	**Carol Barnes, PhD,** *University of Arizona* **Matt Huentelman, PhD,** *Tgen*
11:55am - 12:20pm	**Report Human Breakout Group**	**Scott Hofer, PhD,** *University of Victoria* **Yaakov Stern, PhD,** *Columbia University*
12:20-12:30pm	**Conclusions/Next Steps**	**Yaakov Stern, PhD,** *Columbia University*
12:30-2:00pm	**Lunch**	

Audience

The workshop had **187 researchers from across the globe with 130 in-person attendees**. Countries represented were:

Australia, Brazil, Canada, Colombia, Denmark, Finland, France, Germany, Greece, Ireland, Mexico, the Netherlands, Norway, S. Korea, Spain, Sweden, United Kingdom, Turkey and from all regions of the United States.

Attendees

First Name	Last Name	Suffix	Organization
Lindsay	Chura	PhD	AARP
Sarah	Lock	Other	AARP
David	Parkes	Other	AARP
Shivangi	Jain	PhD	AdventHealth Research Institute
Oshadi	Jayakody	PhD	Albert Einstein College of Medicine
Helena	Blumen	PhD	Albert Einstein College of Medicine
Jinshil	Hyun	PhD	Albert Einstein Collge of Medicine
Simin	Mahinrad	MD, PhD	Alzheimer's Association
Claire	Sexton	PhD	Alzheimer's Association
Manuela	Dorado	Other	Alzheimer's Disease Data Initiative (ADDI)
Linda	Lorenz	MS	Amsterdam UMC
Mike	Malek-Ahmadi	PhD	Banner Alzheimer's Institute

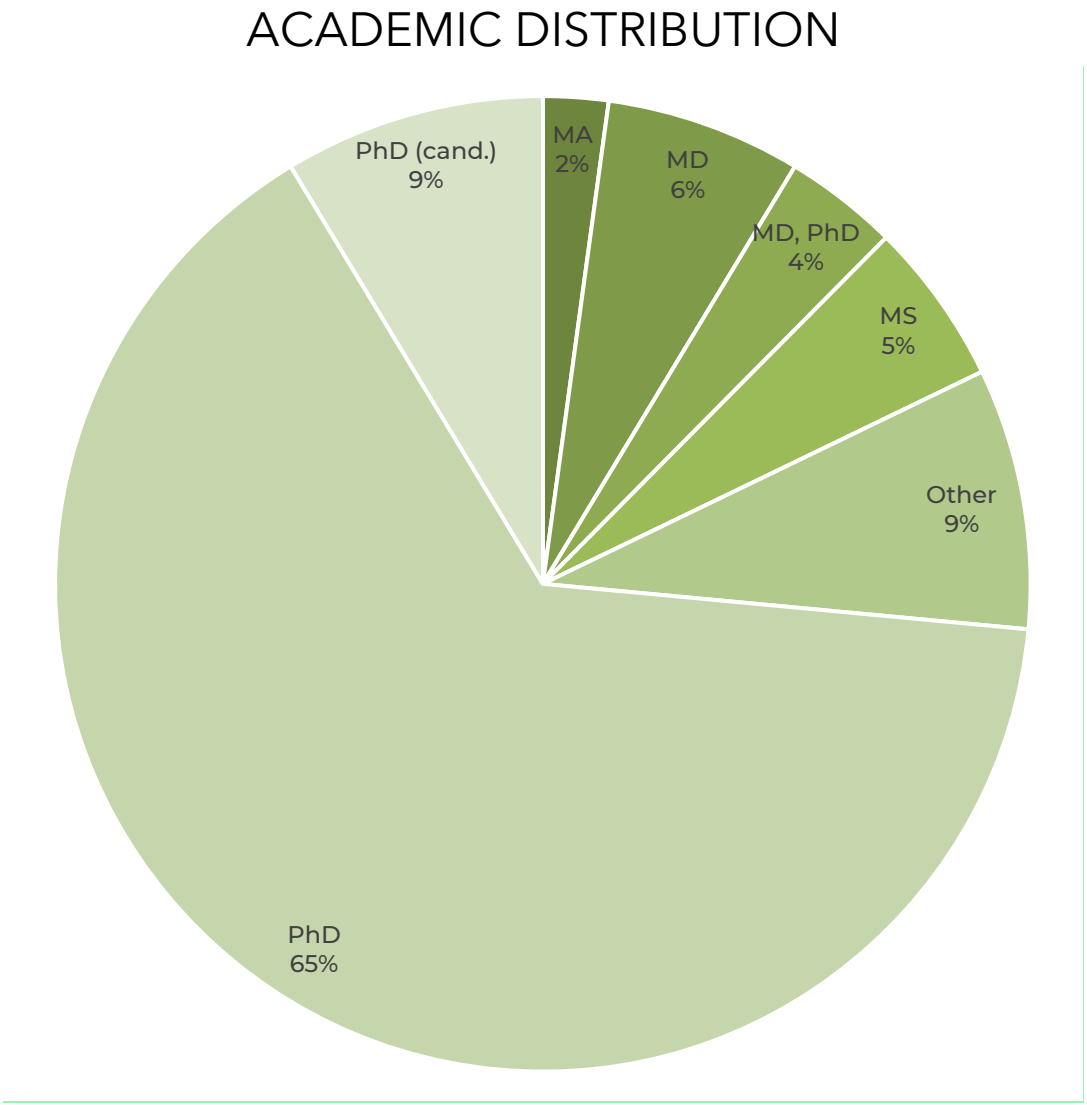
Muge	Akinci	MS	Barcelona Institute for Global Health (IS Global) & Barcelonabeta Brain Research Center (BBRC)
Winston	Hide	PhD	Beth Isral Deaconess Hospital
Isabel	Castanho	PhD	BIDMC, Harvard Medical School
Phillip	Hwang	PhD	Boston University
Stacy	Andersen	PhD	Boston University Chobanian & Avedisian School of Medicine
Kate	Worthy	Other	BRG Communications
Nicole	Grady	Other	BRG Communications
Shannon	McDaniel	Other	BRG Communications
Harry	Moore	PhD	Catholic University of Murcia (UCAM)
Perla	Moreno Castilla	PhD	Center of Agign Research, Cinvestav.
Ainara	Estanga	PhD	Cita-Alzheimer
Martine	Ammassari-Teule	PhD	CNR-National reearch Council of Italy
Alice	Gavarrete Olvera	MA	Columbia University
Angeliki	Tsapanou	PhD	Columbia University
Sharon	Simon	PhD	Columbia University
Fatemeh	Hasanzadeh	PhD	Columbia University
Christian	Habeck	PhD	Columbia University
Yaakov	Stern	PhD	Columbia University
Osamu	Katayama	PhD	Columbia University
Tain	Luquez	PhD (cand.)	Columbia University
Seonjoo	Lee	PhD	Columbia University
Leila	Simanijoni	PhD	Columbia University Irving Medical Center
Annabell	Coors	PhD	Columbia University Irving Medical Center
Michelle	Jin	MS	Columbia University Irving Medical Center
Yian	Gu	PhD	Columbia University Irving Medical Center
Yunglin	Gazes	PhD	Columbia University Irving Medical Center
Iris	Strangmann	PhD	Columbia University Medical Center
Naiara	Demnitz	PhD	Copenhagen University Hospital
David	Horovitz	PhD (cand.)	David Horovitz
Haewon	Cho	MA	Department of Psychology, College of Social Science, Seoul National University, Seoul, South Korea
James Qixin	SHI	MD	Dracaena Healthcare Group
Roberto	Cabeza	PhD	Duke University
Marina	Leiman	PhD (cand.)	DZNE / OvGU
Vanessa	Peixoto	PhD (cand.)	Federal University of Rio Grande do Norte
Emrah	Duezel	MD	German Center for Neurodegenerative Diseases
Fedor	Levin	Other	German Center for Neurodegenerative Diseases
David Fernando	Aguillon Nino	PhD	Grupo de Neurociencias de Antioquia, Universidad de Antioquia
FRANCESCA	GELFO	PhD	Guglielmo Marconi University
Felipe	Schiffino	PhD	Harvard Medical School
Yiwen	Rao	Other	Harvard School of Public Health
Renata	Kochhann	PhD	Hospital Moinhos de Vento

Sam	Gandy	MD, PhD	Icahn SOM Mount Sinai
Julie	Gonneaud	PhD	Inserm
Eleni	Palpatzis	PhD (cand.)	ISGlobal
Zerrin	Yildirim	MD, PhD	Istanbul University
Collin	Perryman	PhD	Johns Hopkins Bloomberg School of Public Health
Michela	Gallagher	PhD	Johns Hopkins University
Marilyn	Albert	PhD	Johns Hopkins University
Audrey	Branch	PhD	Johns Hopkins University
Corinne	Pettigrew	PhD	Johns Hopkins University
Anja	Soldan	PhD	Johns Hopkins University
QIANLI	XUE	PhD	Johns Hopkins University
Yeshin	Kim	MD, PhD	Kangwon National University Hospital
Rebecca	Haberman	PhD	Mary Baldwin University
Shelly	Aboagye	Other	Marymount University
Uma	Kelekar	PhD	Marymount University
Patricia	Heyn	PhD	Marymount University
Mahederemariam	Dagne	MS	Marymount University
Maira	Okada de Oliveira	PhD	Mass General Hospital
Thomas	Morin	PhD	Mass. General Hospital
Rory	Boyle	PhD	Massachusetts General Hospital
Xi	Yu	PhD (cand.)	Mayo Clinic
Valentin	Ourry	PhD	Mcgill University
Angelika	Schlanger	Other	McKnight Brain Research Foundation
Valerie	Patmintra	Other	McKnight Brain Research Foundation
Sara	Nolin	PhD	Medical University of South Carolina
Idaly	Velez Uribe	PhD	Mount Sinai medical Center
Stan	Colcombe	PhD	Nathan Kline Institute
Nikolaos	Scarmeas	MD, PhD	National and Kapodistrian University of Athens / Columbia University
Dana	Plude	PhD	National Institute on Aging
Dana	Plude	PhD	National Institute on Aging
Quinn	Kennedy	PhD	neuroFit
Donncha	Mullin	MD, PhD	NHS Scotland & University of Edinburgh
Jennifer	Isaacs	PhD	NIH
Dr. Dave	Frankowski	PhD	NIH/National Institute on Aging
Dr. Jennifer	Isaacs	PhD	NIH/National Institute on Aging
Dr. Justin	Reber	PhD	NIH/National Institute on Aging
Molly	Wagster	PhD	NIH/National Institute on Aging
Qing	Yao	PhD	NIH/National Institute on Aging
Luci	Roberts	PhD	NIH/National Institute on Aging
Amanda	DiBattista	PhD	NIH/National Institute on Aging
Coryse	St. Hillaire-Clarke	PhD	NIH/National Institute on Aging
Caroline	Sferrazza	MS	NIH/National Institute on Aging
Jonathan	King	PhD	NIH/NIA

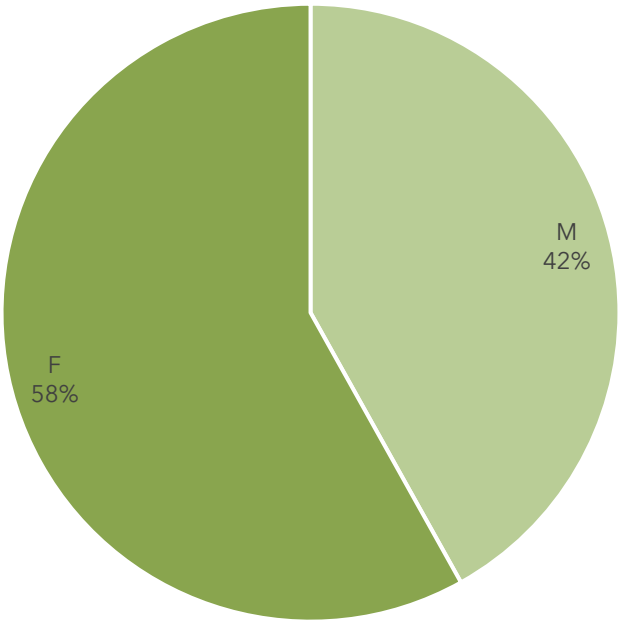
Molly	Wagster	PhD	NIH/NIA
Jennie	Larkin	PhD	NIH/NIA
Peter	Rapp	PhD	NIH/NIA
Meishan	Ai	PhD (cand.)	Northeastern University
John	Disterhoft	PhD	Northwestern University
Sandra	Weintraub	PhD	Northwestern University Feinberg School of Medicine
Victor	Ekuta	MD	Penn Alzheimer's Disease Research Center
Thakshila	Dasanayake	PhD (cand.)	Pennsylvania State University
Giovanni	Taccari	MD	Policlinico Tor Vergata
Na	a	PhD (cand.)	PSU
Rebecca	Egerton	Other	Queen's University Belfast, Centre for Public Health
Michelle	Jansen	MS	radboud university
Kristine	Sneidere	PhD	Riga Stradiņš University
Xenia	Kobeleva	MD	RUB
Jihyeon	Jo	MS	Seoul National University
Su Bin	Lim	Other	Seoul National University
Hankyeong	Lee	PhD (cand.)	Seoul National University
Jennifer	Ferris	PhD	Simon Fraser University
Lauren	Grebe	MA	St. John's University
Karly	Cody	PhD	Stanford University
Eunji	Choi	PhD	Stanford University
Roger	Wong	PhD	SUNY Upstate Medical University
Matt	Huentelman	PhD	TGen
Hanna	LU	PhD	The Chinese University of Hong Kong
Anna	MacKay-Brandt	PhD	The Nathan S. Kline Institute for Psychiatric Research
Tingting	Dan	PhD	The University Of North Carolina at Chapel Hill
Katherine	Britt	PhD	University of Pennsylvania
Margherita	De Introna	MA	Tor Vergata University, Santa Lucia Foundation
Yang	Hu	PhD (cand.)	Tufts University
Kyla	Shea	PhD	Tufts University USDA Human Nutrition Research Center on Aging
Ileana	De Anda-Duran	MD	Tulane University
Theresa	Harrison	PhD	UC Berkeley
Daniela	Kaufer	PhD	UC Berkeley
Sarah	Farias	PhD	UC Davis
Kaitlin	Casaletto	PhD	UCSF
Anna	VandeBunte	PhD (cand.)	UCSF Memory and Aging Center
Wyllians	Borelli	MD, PhD	UFRGS
Cintia	Velázquez Delgado	MD	UNAM
Alvin	Thomas	PhD (cand.)	UNC Chapel Hill
Heloisa Batista	Teza	MD	UNIFESP - Federal University of Sao Paulo
Thomas	Schlickmann	Other	Universidade Federal do Rio Grande do Sul
Michelle	Eliason	MS	University at Buffalo

Sarah	James	PhD	University College London
Harriet	Demnitz-King	PhD	University College London
Keith	McGregor	PhD	University of Alabama at Birmingham
Carol	Barnes	PhD	University of Arizona
Carol	Barnes	PhD	University of Arizona
Irina	Sinakevitch	PhD	University of Arizona, EMBI
Maria	Cabello Toscano	PhD	University of Barcelona
Lídia	Mulet Pons	PhD (cand.)	University of Barcelona
Teresa	Liu-Ambrose	PhD	University of British Columbia
Brandon	Gavett	PhD	University of California Davis
Stefania	Pezzoli	PhD	University of California, Berkeley
Bill	Jagust	MD	University of California, Berkeley
Alexander	Ehrenberg	PhD (cand.)	University of California, Berkeley
Jessica	de Leon	MD	University of California, San Francisco
Jessica	Deleon	MD	University of California, San Francisco
Emily	Rogalski	PhD	University of Chicago
Thomas	Foster	PhD	University of Florida
Deirdre	OShea	PhD	University of Miami
Lily	Wang	PhD	University of Miami
Catherine	Kaczorowski	PhD	University of Michigan
Robert	Willis	PhD	University of Michigan
Catherine	Kaczorowski	PhD	University of Michigan
Catherine	Kaczorowski	PhD	University of Michigan
Ladan	Ghazi Saidi	PhD	University of Nebraska at Kearney
Kulbir	Kaur	PhD	University of New Mexico
Guorong	Wu	PhD	University of North Carolina at Chapel Hill
Kristine Beate	Walhovd	PhD	University of Oslo
Didac	Vidal	PhD	University of Oslo
Marie	Strømstad	PhD	University of Oslo
Klaus	Ebmeier	MD	University of Oxford
Sonia	Montemurro	PhD	University of Padova
Sara	Mondini	PhD	University of Padova
Patricia	Alzola Bordón	MS	University of Salamanca
Jingkai	Wei	PhD	University of South Carolina
Joseph	McQuail	PhD	University of South Carolina
Vahan	Aslanyan	PhD (cand.)	University of Southern California
Jessica	Kraft	PhD	University of Texas at Dallas
Annachiara	Crocetta	MS	University of Turin
Scott	Hofer	PhD	University of Victoria
Tara	Cooper	Other	University of Victoria
Anna	Gillespie	PhD	University of Washington
Seo-Eun	Choi	PhD	University of Washington
YIN	LIU	PhD	Utah state university
Lori	Newman	PhD	Vassar College

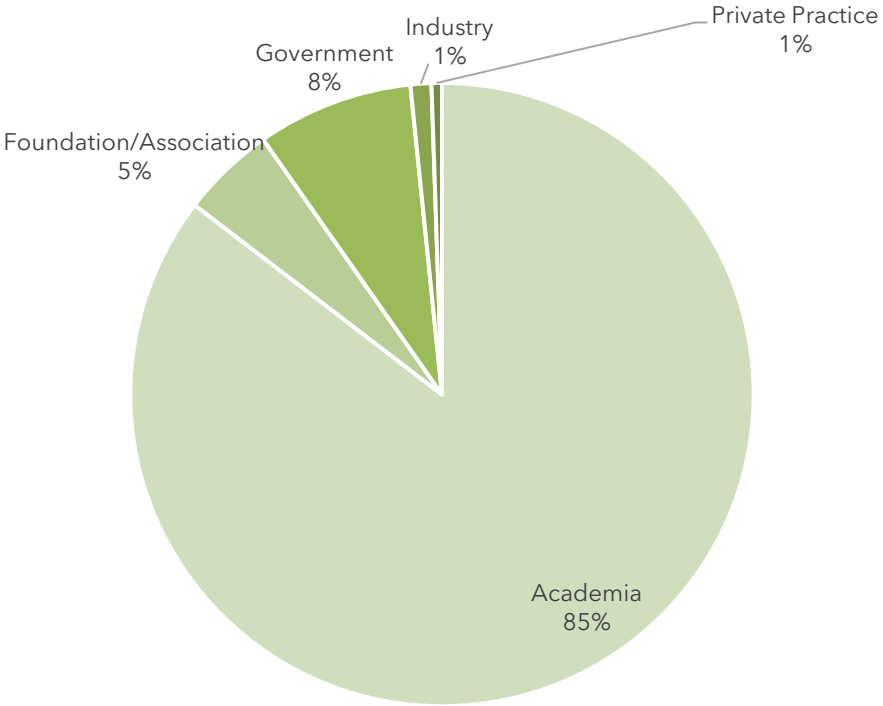
Carol	Shively	PhD	Wake Forest University School of Medicine
Taylor	Pedersen	Other	Washington University in St. Louis
Zoey	Lai	PhD	Wayne State University



Attendee Gender Distribution



Market Distribution

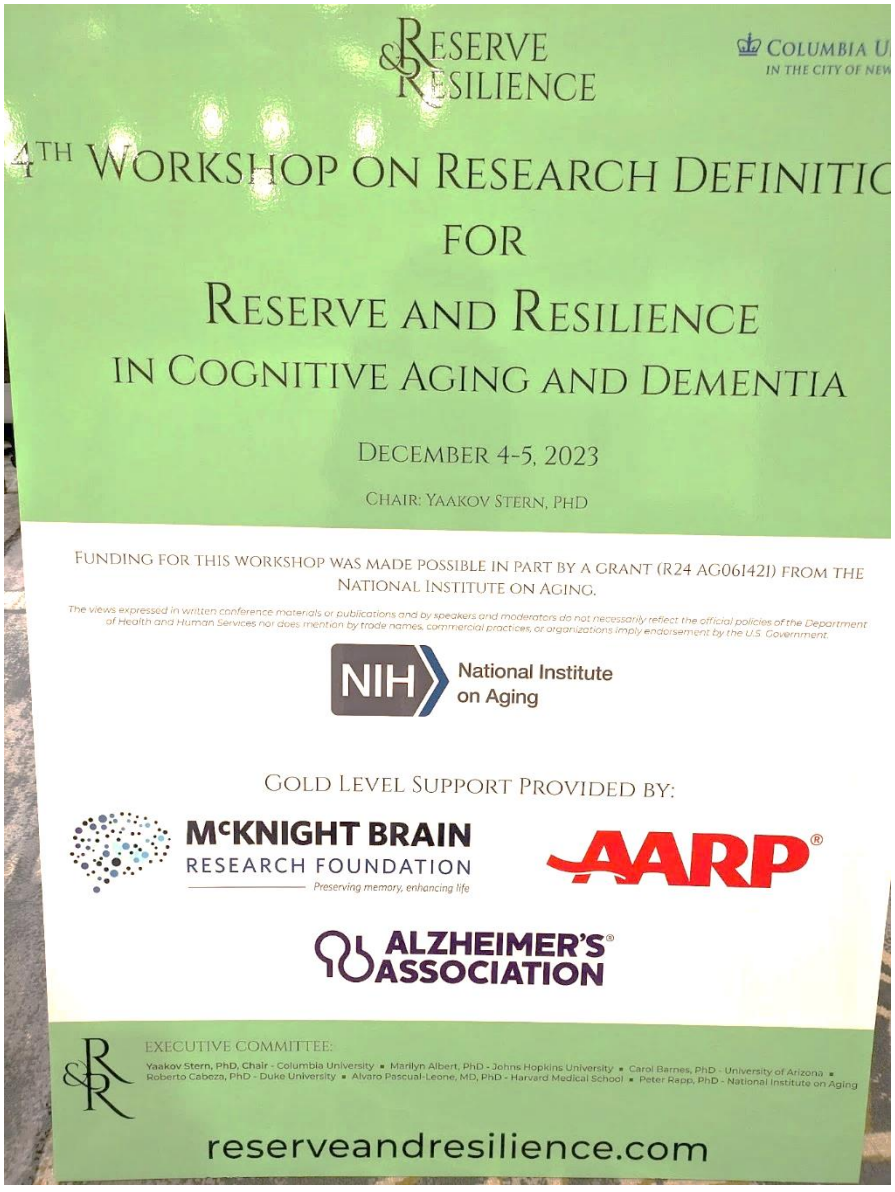


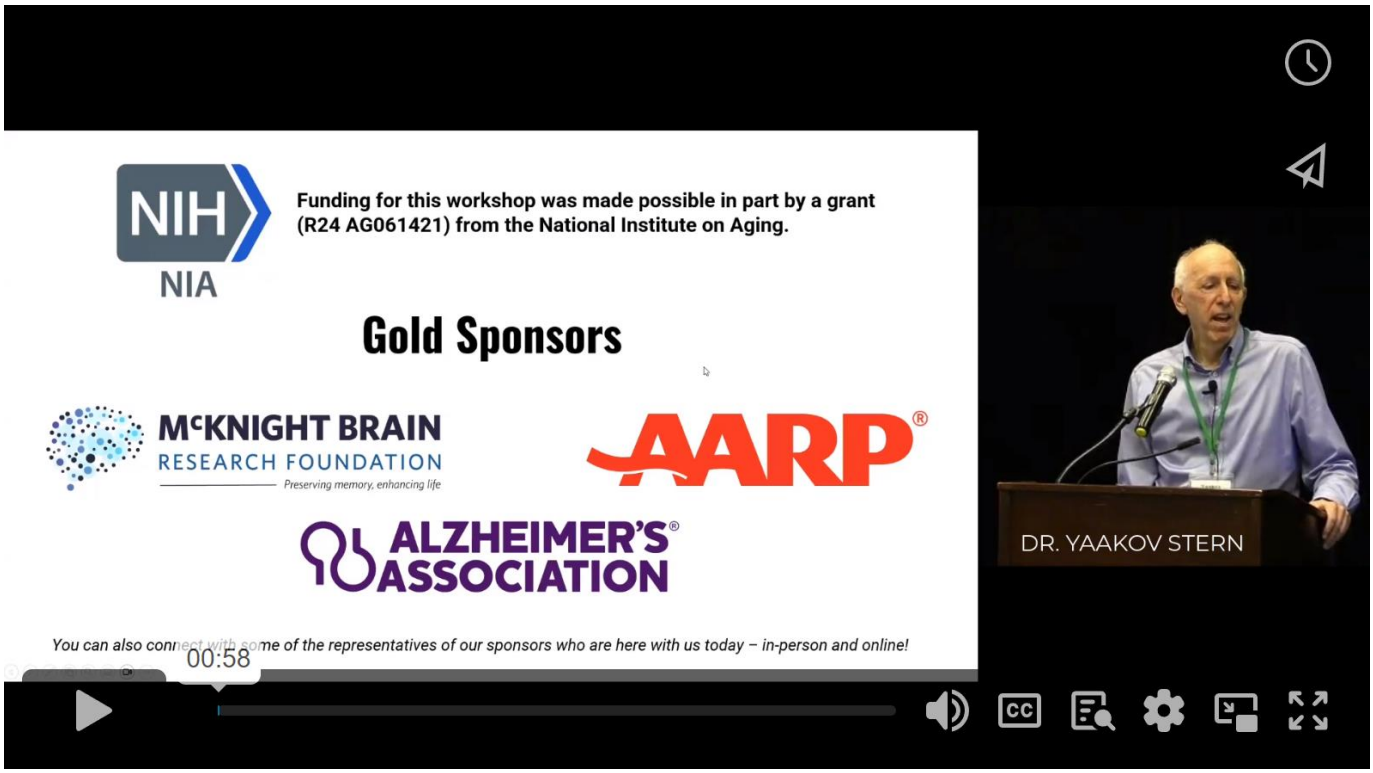
Scholarships

The workshop had provided 72 scholarships towards registration, travel support and accommodation for graduate students, post docs and early career scientists to attend the workshop. The website had an online application form with a submission deadline of October 6, 2023.

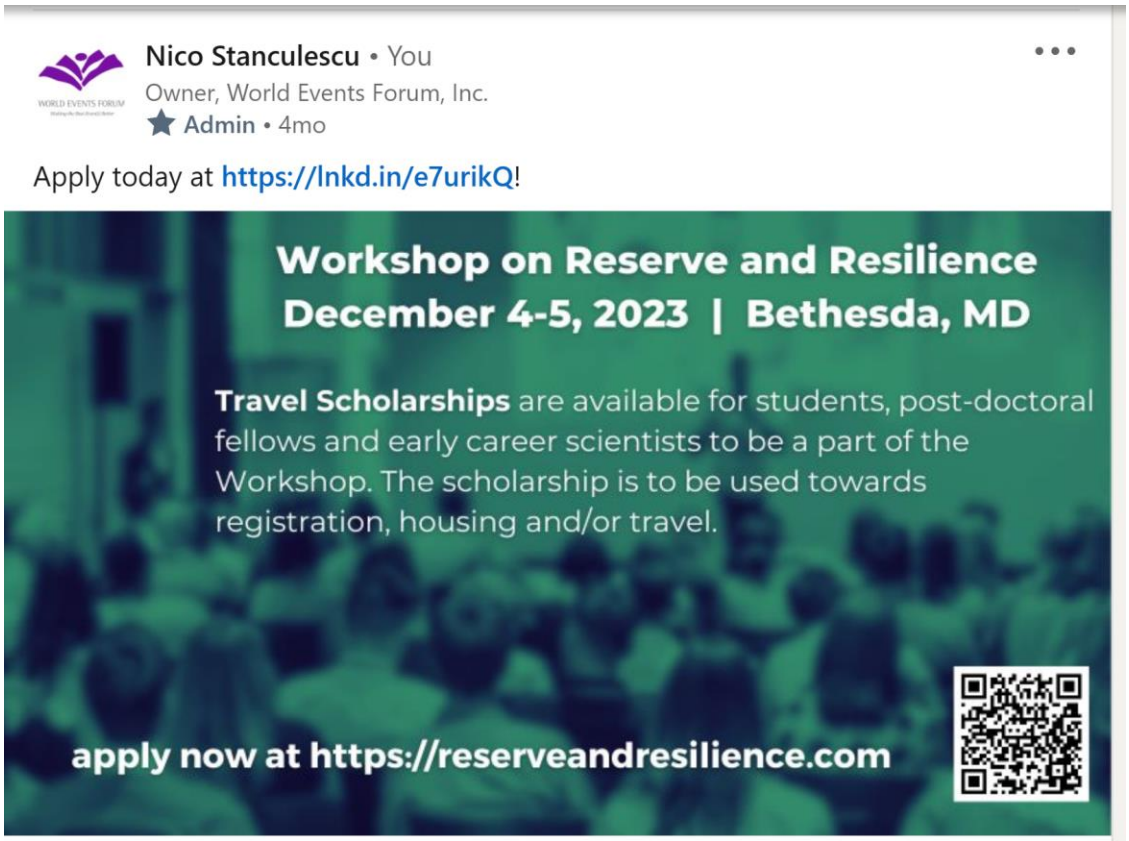
Support

Funding for this conference was provided in part by a Cooperative Agreement from the National Institute on Aging. The meals at the workshop (breakfast, lunch and coffee breaks) and reception for all the attendees were provided with significant support from **AARP, The McKnight Brain Research Foundation** and the **Alzheimer's Association**.





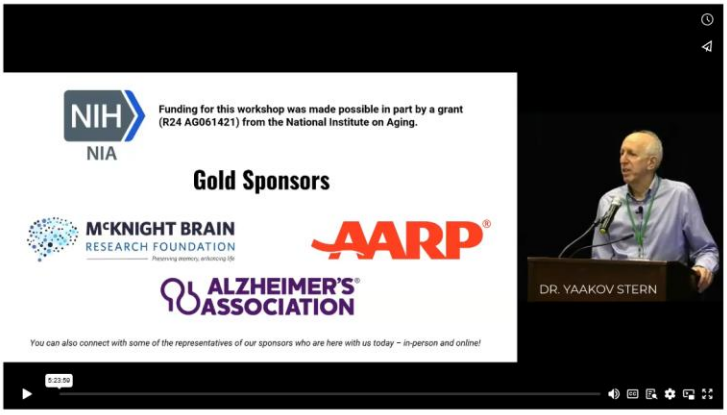
Social Media Engagement



Videos

The video recordings are now posted at the event's website https://reserveandresilience.com/

Day 1



Day 2

Executive Committee

Yaakov Stern, PhD, (Workshop Chair) is Chief of the Cognitive Neuroscience Division, Department of Neurology, and Professor of Neuropsychology, Gertrude H. Sergievsky Center and Taub Institute for Research on Alzheimer's Disease (AD) and the Aging Brain at Columbia University Medical Center.

Dr. Stern's research focuses on cognition in normal aging and diseases of aging, particularly AD. A strong theme of his research has been exploring individual differences in task performance in general and more specifically the reason why some individuals show more cognitive deficits than others in the face of brain insult. This has led to the cognitive reserve hypothesis, which provides rationale for intervening to improve cognitive aging.

Dr. Stern has provided some of the earliest epidemiologic evidence and developing the theory of cognitive reserve, differentiating it from other important concepts such as brain reserve and brain maintenance. His lab is involved in several ongoing, large scale imaging studies of cognition in normal aging, studies of heterogeneity of AD and epidemiologic studies of aging, AD incidence and progression. Dr. Stern's research approach includes classic neuropsychological and cognitive experimental techniques, with strong focus on functional imaging.

Marilyn Albert, PhD, is Professor of Neurology and Director of Cognitive Neuroscience Division in the Department of the Neurology at the Johns Hopkins University School of Medicine. She is also the Director of the Johns Hopkins Alzheimer's Disease Research Center.

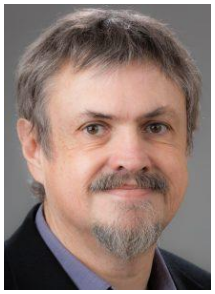
Her research focuses on understanding the cognitive and brain changes in aging and neurodegenerative disorders such as AD. Dr. Albert's research aims to identify the relationship between biomarkers based on imaging, cerebrospinal fluid, blood and genetics to cognitive changes and the early diagnosis of AD. Her research was the first to show the characteristic feature of delayed recall in AD.

Dr. Albert's work on the examination of risk and protective factors in progression from normal cognition to mild cognitive impairment incorporates the important concept of cognitive reserve. More recently, her work has combined longitudinal studies with biomarkers and cognitive test scores to characterize the progression across the AD continuum.

Carol Barnes, PhD, is Regents' Professor of Psychology, Neurology and Neuroscience at the University of Arizona (UA), and the Evelyn F. McKnight Chair for Learning and Memory in Aging. She is also the Director of the Evelyn F. McKnight Brain Institute and the Division of Neural Systems, Memory and Aging at UA.

Dr. Barnes is an elected Fellow of the American Association for the Advancement of Science and a member of the National Academy of Sciences. Dr. Barnes is known for her pioneering work in animal models of brain aging and cognition, and the development of the novel "Barnes maze". Her research aims to understand the neurobiological mechanisms that underly memory change in normal aging and individual differences in cognitive trajectories that occurs in aging. Dr. Barnes' seminal work in 1980 on synaptic transmission in the hippocampus of aging animals first demonstrated the concept of compensation in aging brain. Over the course of her research career, she has developed a number of methods for high-density

electrophysiological recording of behavior-driven single cell activity and molecular activity monitoring across the brain. Her lab uses behavioral, electrophysiological and molecular approaches to identify factors that would benefit from specific treatment or prevention approaches for optimizing memory across the lifespan.



Roberto Cabeza, PhD, is Professor at the Department of Psychology of Neuroscience of Duke University, where he is also Core Member of the Center for Cognitive Neuroscience and Senior Fellow of the Center for Aging and Human Development. Dr. Cabeza has over 20 years of experience in neuroimaging of episodic memory and aging.

His laboratory uses functional MRI (fMRI), diffusion tensor imaging (DTI), electro-encephalography (EEG), and transcranial magnetic stimulation (TMS). Using these various techniques, his laboratory investigates compensatory mechanisms in the aging brain, including the phenomena that older adults tend to show more bilateral and more frontal activation patterns than younger adults. Dr. Cabeza and his students also examine age-related deficits in white-matter and their impact on functional brain activity and connectivity. They also study the effects of aging on the neural mechanisms of memory processes, including recollection, source memory, false memory, emotional memory, and autobiographical memory.

Currently, Dr. Cabeza's laboratory is using sophisticated network and representational analyses to examine age effects on cognitive abilities, including decision making, and examining the use of cognitive training and TMS to enhance cognition in older adults. Dr. Cabeza's work has direct implications for understanding individual differences in cognitive abilities among older adults, including those related to pathological processes such as Alzheimer's Disease (AD).

Alvaro Pascual-Leone, MD, PhD is affiliated with the Institute for the Aging Brain and the Center for Memory Health at Hebrew Senior Life. Dr. Pascual-Leone's research aims at understanding the mechanisms that control brain plasticity across the life span to be able to modify them for the patient's optimal behavioral outcome, prevent age-related cognitive decline, reduce the risk for dementia, and minimize the impact of neurodevelopmental disorders (http://www.brainfitclub.org).

Dr. Pascual-Leone is a world leader in the field of noninvasive brain stimulation where his contributions span from technology development, through basic neurobiologic insights from animal studies and modeling approaches, to human proof-of-principle and multicenter clinical trials. His research has been fundamental in establishing the field of therapeutic brain stimulation. His work has provided evidence for the efficacy of noninvasive brain stimulation in treating various neurologic and psychiatric conditions, including epilepsy, stroke, Parkinson disease, chronic pain, autism, and drug-resistant depression.

Dr. Pascual-Leone has authored more than 600 scientific papers as well as several books, and is listed inventor in several patents. His work is highly regarded for its innovation and quality and is highly cited. Dr. Pascual-Leone ranks number 1 among authors worldwide in the specific field of "Transcranial Magnetic Stimulation" and "Noninvasive Brain Stimulation" and has an H-index of 130.

Peter Rapp, PhD, is Chief of the Neurocognitive Aging Section and Senior Investigator in the Laboratory of Behavioral Neuroscience at the National Institute on Aging (NIA) Intramural Research Program. His research centers on the cognitive and neurobiological effects of aging in preclinical animal models including rats and monkeys.

Dr. Rapp is well known for establishing a widely used rat model of cognitive aging and advancing a non-human primate model of cognitive aging. In the preclinical animal models, Dr. Rapp's research recognized that neuron death is neither a consequence of aging, nor required for the age-related cognitive impairment and therefore the relative changes in cognitive aging is subtle rather than dramatic neuron loss.

Advancing his research, Dr. Rapp has active collaborations which have identified key neurobiological signatures of age-related cognitive impairments. His body of work suggests that successful healthy cognitive aging arises from a process of neuroadaptation that could lead to interventions towards effective aging.

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