

SUNTRUST

Date: October 8, 2020

To: McKnight Brain Research Foundation Trustees
Amy Porter, Executive Director
Henry H. Raattama, Jr. Legal Counsel

From: Melanie Cianciotto

Subject: MBRF Meeting: October 14, 2020 via WebEx

Enclosed you will find the meeting package for the October 14, 2020 Trustee's meeting to be held via WebEx. Included in this package for your review are the following items: the agenda, final draft of the minutes of the July 23, 2020 Trustee's meeting, minimum distribution calculation and other supporting material for the agenda items. The investment review will be sent under separate cover.

/mc

cc: Mike Hill

Enclosures

MCKNIGHT BRAIN RESEARCH FOUNDATION (MBRF)

Meeting of the Board of Trustees

Via Web-Ex

Wednesday, October 14, 2020

10:00 am ET – 3:00 pm ET (7:00 am PT – 12:00 pm PT)

If you experience difficulties logging in, please contact Melanie Cianciotto 321-228-6578.

AGENDA

10:00 am ET	1.	Call to Order/Roll Call/Welcome New Trustees	Dr. Mike Dockery
ACTION	2.	Approval of Minutes, July 22, 2020	Dr. Mike Dockery
10:05 am	3.	Investment Review	Mr. Mike Hill
10:25 am	4.	Chair's Report	Dr. Mike Dockery
	a.	University of Florida MBI	Dr. Mike Dockery
		• Status of MOU	Mr. Hank Raattama
	b.	University of Arizona MBI	Dr. Mike Dockery
		• Successful Submission and Validation of U-19 Grant	Dr. Mike Dockery
		• MBI transition to Department of Psychology	Dr. Lee Dockery
	c.	Inter-institutional Virtual Meeting April 28 & 29, 2021	Dr. Mike Dockery
11:00 am	5.	Executive Director's Report	Ms. Amy Porter
	a.	American Brain Foundation Virtual Events	
	b.	Reserve & Resilience Workshop	
11:10 am	6.	Corporate Trustee's Report	Ms. Melanie Cianciotto
	a.	Minimum Distribution Calculation	
	b.	Gifts and Grants Report	
	c.	Travel Award Program Report	
	d.	2019 Operating Expenses and YTD 2020	
	e.	University of Miami Annual Investment & Growth Pool	
11:30 am	7.	Committee Reports (20 – 30 Minutes Each)	Dr. Mike Dockery
	a.	Membership and Governance (11:30 am)	Dr. Sue Pekarske
		• Trustee Appointment History and Terms	
		• Orientation Materials for New Trustees	Dr. Lee Dockery
	b.	Finance Committee (12:00 noon)	Dr. Gene Ryerson
12:30 – 1:00		BREAK	
	c.	Communications Committee (1:00 pm)	Dr. Richard Isaacson
		• Communications Working Group Meeting	
		• MBRF/MBI Organizational Brochure	
		• Update on New Website Content	Ms. Valerie Patmintra
		• Update on Audience Building Plan	Ms. Valerie Patmintra
		• Press Releases for New Trustees	Ms. Valerie Patmintra
	d.	Education Committee (1:30 pm)	Dr. Robert Wah
		• Website Outline for Primary Care Physicians	Ms. Valerie Patmintra
ACTION (1)	e.	Research Committee (2:00)	Dr. Madhav Thambisetty
		• McKnight Scholarship American Brain Foundation Report/Request	
		• Pilot Grant Submissions and NIH Funded R21 Grant (Lubin UAB)	
		• Research Partnership Foundation for NIH Report	
		• MBRF Mid-Career Research Award Status	
2:50 pm	9.	Future Meetings and Events (Attachment 1)	Dr. Mike Dockery
	10.	Other Business	Dr. Mike Dockery
3:00 pm ET	11.	Adjournment	Dr. Mike Dockery
ACTION			

Attachment 1

MCKNIGHT BRAIN RESEARCH FOUNDATION (MBRF) FUTURE MEETINGS AND EVENTS

Meetings

February 2021	Trustees' Meeting – to be determined
April 28 – 29, 2021	Trustees' Meeting & Inter-Institutional Virtual Meeting hosted by UM
July 2021	Trustees' Meeting – to be determined
October 2021	Trustees' Meeting – to be determined

Events

May 2021	McKnight Scholars Dinner at AAN – to be determined
Fall 2021	Society for Neuroscience Poster/Reception – to be determined

MINUTES
MCKNIGHT BRAIN RESEARCH FOUNDATION
BOARD OF TRUSTEES MEETING
CONFERENCE CALL via Skype
July 22, 2020

The Trustees' meeting of the McKnight Brain Research Foundation (MBRF) was called to order at 9:20 a.m. on July 22, 2020.

The following members were present:

Dr. Michael Dockery, Chair
Dr. Madhav Thambisetty, Vice Chair
Dr. J. Lee Dockery, Chair Emeritus
Dr. Richard Isaacson, Trustee
Dr. Susan Pekarske, Trustee
Dr. Gene G. Ryerson, Trustee
Dr. Robert Wah, Trustee
Ms. Melanie Cianciotto, Corporate Trustee,
SunTrust Bank Institutional Investment Solutions

Others attending:

Mr. Henry H. Raattama, Jr., Legal Counsel
Mr. Mike Hill, SunTrust Bank Institutional Investment Solutions
Ms. Amy Porter, Executive Director
Ms. Valerie Patmintra, Senior Communications Advisor

1. Investment Review

Mr. Hill presented the investment review and commented on key economic and investment factors through June 30, 2020 (Attachment 1).

A. Market Environment

- There has been unprecedented volatility year to date as well as unprecedented stimulus measures from the Federal Reserve and other Central Banks resulting in one of the most rapid Bear market recoveries in history.
- We anticipate a shorter but deeper than average recession. It will likely take until early 2022 to regain the ground lost.

B. Portfolio Review

Asset Allocation: The asset classes of the investments within the portfolio of the MBRF remain within the guidelines established by the trustees in the Investment Policy Statement of the Foundation.

Portfolio Performance: For the one-year period ending June 30, 2020, the total return for the portfolio was up 5.98% versus 3.05% for the Investment Policy Statement Index.

Action Item 1: The committee received the investment review for information (Attachment 1)

2. Efficient Frontier Analysis, Asset Allocation and Investment Policy

Mr. Hill presented the Efficient Frontier Analysis. Mr. Hill explained to the trustees the capital market assumptions for various bond and stock indexes, as well as non-traditional asset classes and discussed how the estimated investment return is factored into the proposed allocation. The proposed allocation incorporates the changes from the Efficient Frontier Analysis. Within the equity asset class, there is some adjustment within the sub asset classes of the broad class of equities. The MBRF proposed asset allocation mix would yield an expected return of 6.43%.

After review and discussion, a motion was made to accept the recommended proposed mix of asset classes for the investment portfolio of the MBRF as presented in the asset allocation study with a targeted return of 6.43%. The motion passed unanimously. Mr. Hill provided the trustees with the recommended revisions to Appendix A and Appendix B of the Investment Policy Statement. These revisions are compatible with the newly approved asset allocation mix recommendations, and also update the inflation figure obtained through the Biomedical Research and Development Price Index with an effective date of July 22, 2020. The motion passed unanimously.

Action Item 2: The trustees approved the Efficient Frontier Asset Allocation Analysis with the mix of asset classes for the investment portfolio of the MBRF to produce an anticipated yield of 6.43%.

Action Item 3: The trustees approved the revised Appendix A and Appendix B of the Investment Policy Statement as presented by Mr. Hill, compatible with the newly approved asset allocation mix, with an effective date of July 22, 2020.

3. Approval of Minutes

The minutes of the April 1, 2020, Board of Trustees Conference Call Meeting of the McKnight Brain Research Foundation were reviewed and amended as follows (Attachment 2):

Under 3. Chair's Report, the first sentence of the second paragraph was amended to read "Dr. Dockery provided an update on the Leadership Council and his conversation with the current Chair, Dr. Sacco."

In the same section, the third sentence of the third paragraph was amended to read "Mr. Raattama informed the trustees that the proposed restructuring by the University changes the structure of the current Memorandum of Understanding (MOU)..."

Under 5. Executive Director's Report, 2020 was added to the last sentence in the first paragraph to read "Christian Aguedlo, MD, was chosen and will begin in July 2020."

Action Item 4: The trustees approved the minutes of the April 1, 2020, Board with the following amendments: Under 3. Chair's Report, the first sentence of the second paragraph was amended to read "Dr. Dockery provided an update on the Leadership Council and his conversation with the current Chair, Dr. Sacco."

In the same section, the third sentence of the third paragraph was amended to read "Mr. Raattama informed the trustees that the proposed restructuring by the University changes the structure of the current Memorandum of Understanding (MOU)..."

Under 5. Executive Director's Report, 2020 was added to the last sentence in the first paragraph to read "Christian Aguedlo, MD, was chosen and will begin in July 2020."

4. Chair's Report

Dr. Mike Dockery provided an overview of the day's meeting which is being held virtually rather than in person.

Dr. Mike Dockery provided an update on the University of Florida MBI. An Amended and Restated MOU (Attachment 3) was sent to Dr. Todd Golde in early June. Dr. Dockery followed up with Dr. Golde last week and was informed that the document has

been sent to their Legal Department for review. At the request of the Chair, Mr. Raattama has been in contact with Susan Goffman, the Executive Director of Legal Services with the UF Foundation, but at the time of this Board meeting no updates have been provided by the University of Florida.

Dr. Lee Dockery provided an update on the UF website (Attachment 4). Ms. Porter and Ms. Patmintra recommended changes to the website to Dr. Jennifer Bizon. Dr. Bizon has been easy to work with, receptive and grateful for the suggestions. Some, but not all, of the recommended changes were made to the website.

Dr. Mike Dockery discussed future presentations of the Asset Allocation and Efficient Frontier Analysis with the trustees. The 2020 Asset Allocation and Efficient Frontier Analysis was presented during the July 6, 2020, Finance Committee Meeting. The committee members questioned whether or not this material should also be reviewed by the entire Board. After discussion, it was decided that the Asset Allocation and Efficient Frontier Analysis be presented to both the Finance Committee and the entire Board of the MBRF on an annual basis.

5. Executive Director's Report

Ms. Porter provided the trustees with an update on her activities. Since the last meeting, Ms. Porter completed the Goals and Timeline for Performance Evaluation document (Attachment 5) which she shared with the trustees. After discussion, it was agreed that the document will evolve as the trustees become more comfortable with its use and implementation. The document was approved as presented for use in evaluating Ms. Porter's performance for the current year.

Action Item 5: The Goals and Timeline for Performance Evaluation document was approved as presented for use in evaluating Ms. Porter's performance for the current year.

Ms. Porter shared the revised Annual Report Template and Financial Report Template with the trustees (Attachment 6). The Annual Report Template was approved as amended and the Financial Report Template will be a suggested format for the Institutes to follow.

Action Item 6: The Annual Report Template was approved as amended and the Financial Report Template will be a suggested format for the Institutes to follow.

Ms. Porter informed the trustees that the Reserve & Resilience Workshops will now be held as a virtual meeting on September 14 – 15, 2020. The MBRF supported the workshop last year for \$30,000 with these monies going to provide food and other

support. The MBRF has again previously voted to support the event this year. With this year being a virtual meeting, the MBRF's support of \$30,000 will be used to fund pilot proposals to develop experimental approaches towards operationalizing and testing the proposed definitions for brain maintenance and cognitive reserve, among other related concepts as outlined in their request for proposal.

At the time of today's Board meeting, the SfN plans on holding their annual meeting in October. After discussion, it was agreed that the MBRF sponsored poster session should be cancelled this year due to the ongoing pandemic. Ms. Porter and the Corporate Trustee will work with Vicki Hixon and the hotel to void our contract.

Ms. Porter provided the trustees with an update on the U19 Demonstration Project. At this time, in person recruitment is not possible and a strategy has been developed to help screen participants virtually. The budget that had been previously approved by the MBRF was revised and resubmitted to the MBRF for consideration. The revised budget was reviewed and approved by the Executive Committee of the MBRF and the approval was communicated to Susan Fox-Rosellini on May 22, 2020.

6. Corporate Trustee's Report

- A.** The trustees reviewed the projected minimum distribution calculation for information (Attachment 7).
- B.** The trustees reviewed the Gift & Grants Report for information (Attachment 8).
- C.** The trustees reviewed the Travel Award Report for information (Attachment 9).
- D.** Ms. Cianciotto shared the summary of the 2018 and 2019 Operating Expenses Report with the trustees (Attachment 10).

Action Item 7: The trustees reviewed, for information, the projected minimum distribution calculation (Attachment 7).

Action Item 8: The trustees reviewed, for information, the Gifts and Grants Report (Attachment 8).

Action Item 9: The trustees reviewed, for information, the Travel Award Report (Attachment 9)

Action Item 10: The trustees reviewed, for information, the Operating Expenses Report (Attachment 10).

7. Compensation Review

Ms. Cianciotto presented updated compensation information compiled from information obtained from Exponent Philanthropy and the Council on Foundations (Attachment 11). The trustees discussed their current level of compensation. The nature of the work continues to emphasize the research grant support relative to the programs funded to date in fulfilling the mission of the MBRF. The scientific research being funded by the MBRF at each of the four MBRF Institutes is producing more research outcomes, which the trustees must review and monitor without any reduction in the time devoted to management of the investments. The review of currently funded research projects, requests for new grant support, on site visits by the trustees and review of scientific reports for each of the MBRF funded programs are very important functions of the trustees and require continual monitoring. In order to fulfill the purpose and the mission of the MBRF, the trustees must continuously educate themselves as to the current status and future direction of the research initiatives in learning and memory loss in the aging. The trustees continue to expand and develop research partnerships to encourage increased interest and support of research in learning and memory in the aging.

The trustees discussed the number of hours each spends on Foundation business and confirmed that each spend, on average, a minimum of 4 to 8 hours per week on Foundation matters. The trustees agreed that the \$200 per hour benchmark for trustee compensation initially agreed to in the year 2000 is low by today's standards. However, the current hourly rate of \$200 is definitely within the range of the hourly charge that the MBRF would incur if it retained persons, either as staff or independent contractors, with the necessary scientific knowledge, experience and education to provide the services to the MBRF provided by the trustees. Based on the amount of time devoted to the MBRF business and comparable charges for that type of scientific work and other duties and responsibilities, the trustees approved the annual compensation of \$40,000 per trustee as reasonable and appropriate.

The trustees also approved the continued reimbursement of any out of pocket documented expenses, and travel costs, associated with MBRF business.

Action Item 11: The trustees received the updated compensation information compiled from information obtained from Exponent Philanthropy and the Council on Foundations (Attachment 11) and unanimously approved the current level of compensation at \$40,000 annually and the continued reimbursement of any out of pocket documented expenses incurred while performing MBRF business.

8. Committee Reports

A. Membership and Governance Committee

Dr. Pekarske provided the trustees with an update of the recent meeting of the Membership and Governance Committee.

Interviews with Nominated Trustee Candidates

In order to prevent further delay in conducting interviews with the nominated Trustee Candidates, it was suggested that the interviews be held via video conferencing prior to the October meeting of the MBRF Trustees. If a nominated Trustee Candidate is chosen to join the Board and accepts, they could attend the October meeting. Ms. Porter will poll the trustees to identify dates for the interviews.

Summary of Recruitment, Election and Re-election

Dr. Pekarske shared the Summary of Recruitment, Election and Re-Election Document with the trustees (Attachment 12). The document was approved as presented.

Action Item 12: The Summary of Recruitment, Election and Re-election document (Attachment 12) was approved as presented.

Trustee Self-Assessment Form

Dr. Pekarske summarized the Trustee Self-Assessment Form (Attachment 13) and process. The Trustee Self-Assessment form was approved as amended.

Action Item 13: The Trustee Self-Assessment Form (Attachment 13) was approved as amended.

B. Finance Committee

Dr. Ryerson provided the trustees with an update of the recent meeting of the Finance Committee.

Proposed Operating Budget for 7/1/2020 – 6/30/2021

The proposed Operating Budget for 7/1/2020 – 6/30/2021 (Attachment 14), was shared with the trustees with a recommendation for approval. It was suggested that the consulting item shown under the Operating budget be split to show the Executive Director's compensation is an item under the Operating budget and the Senior Communications Advisor's compensation as

an item under the Communications section of the budget. The trustees approved the Operating budget as amended. In the future, the budget will be presented for review and approval at the April meeting of the MBRF Trustees. Ms. Cianciotto will add this to the Finance Committee timeline.

Action Item 14: The 7/1/2020 – 6/30/2021 (Attachment 14), Operating Budget was approved as amended.

Action Item 15: Ms. Cianciotto will add review of annual Operating Budget to the Finance Committee timeline.

C. Communications Committee

Dr. Isaacson provided the trustees with an update of the recent meeting of the Communications Committee.

MBRF/MBI Organizational Brochure

The trustees received the current draft of the Organizational Brochure for review prior to the call (Attachment 15). Based on feedback from the trustees, Ms. Patmintra will work with Look Think to make the brochure images more colorful while still working to complement the Foundation's brand colors. Ms. Patmintra will also review the brochure content to focus more on the Foundation's efforts outside the McKnight Brain Institutes and to include data points from the new white paper drafted by Dr. Thambisetty.

Action Item 16: Ms. Patmintra will work with Look Think to revise the organizational brochure and an updated draft will be shared with the trustees prior to the October meeting.

Update on New Website Content

The trustees received an update on new content that has been added to the website, including information on the McKnight Scholarships, the 20-year history video and recent articles and interviews featuring the trustees (Attachment 16). Dr. Isaacson also presented an overview of website traffic to date, noting that the site has been attracting approximately 200 visitors per month in 2020 without any promotion of the site.

Update on Audience Building Plan

A proposed plan to help drive additional traffic and build an audience for the website was shared with the trustees (Attachment 17). The trustees discussed ideas for new content to add to the site to help drive additional

traffic, including a section of resources and information on COVID-19 and mental health, blog posts from trustees and MBI experts, and links to the NIA website for diet and exercise tips to maintain cognition.

Action Item 17: Ms. Patmintra will add content to the website with tips and information the NIA and links back to the NIA website.

D. Education Committee

Dr. Wah provided the trustees with an update of the recent meeting of the Education Committee.

Information for Primary Care Physicians

The trustees received the current draft of the Content Outline for Primary Care Physicians Area of the McKnight Brain Website (Attachment 18) for review. Ms. Patmintra will work with LookThink to develop content for the website and add a link to the National Institute on Aging (NIA) website prior to the October meeting of the trustees. The trustees also discussed how to create and deliver a Continuing Medical Education (CME) program for Primary Care Physicians focused on cognitive aging. The first step will be to obtain RFPs from vendors, including Netscape, to get an idea of the scope and cost. The trustees approved obtaining and RFP for the CME program.

Action Item 18: Ms. Patmintra will work with LookThink to develop content for the website and add a link to the National Institute on Aging (NIA) website prior to the October meeting of the trustees.

Action Item 19: Obtain RFPs from vendors, including Netscape, to get an idea of the scope and cost of to create and deliver a CME program for Primary Care Physicians focused on cognitive aging.

E. Research Committee

Dr. Thambisetty provided the trustees with an update of the recent meeting of the Research Committee

New MBRF Grant Program White Paper

The trustees received the McKnight Brain Research Foundation Mid- Career Clinical Translational Research Scientists Award in Cognitive Aging and Memory Loss white paper (Attachment 19).

Ideas for Possible Partners

The trustees discussed next steps in identifying possible partners for the Award. Ms. Porter will reach out to potential partners and set up meetings as necessary. Dr. Lee Dockery will work with Ms. Porter on this initiative.

Action Item 20: Ms. Porter will work with Dr. Lee Dockery in identifying and meeting possible funding partners.

9. Future Meetings and Events

October 2020 Trustees Meeting

Due to the circumstances surrounding the current COVID-19 pandemic, it has been decided the October meeting of the MBRF Trustees will not be an in person meeting. For this reason, the site visit to the McKnight Brain Institute at the University of Alabama at Birmingham will be postponed. Ms. Porter will reach out to Dr. Ron Lazar to inform him of the decision.

2021 Inter-Institutional Meeting

The 12th McKnight Brain Research Foundation Inter-Institutional Meeting will be hosted by the Evelyn F. McKnight Brain Institute at the University of Miami April 28 – 30, 2021. The trustees will arrive the morning of April 28, 2021, and meet in the afternoon beginning at noon. The Inter-Institutional Meeting will begin with a reception on the evening of April 28, 2021, followed by the scientific sessions on April 29-30, 2021, adjourning at noon on April 30, 2021.

10. Adjournment

There being no further business, the meeting was adjourned at 3:25 p.m.

Summary of Action Items:

Respectfully submitted,

Melanie A. Cianciotto
SunTrust Bank, Corporate Trustee

Submission and Validation of the U-19 Grant Proposal to NIH

From: **Barnes, Carol A - (barnesca)** <carol@nsma.arizona.edu>
Date: Tue, Sep 29, 2020 at 2:50 PM
Subject: U19 Precision Aging Network submission
To: Mike Dockery, MD <Mike.Dockery@orthocarolina.com>, Amy Porter <aporter@mcknightbrf.org>
Cc: Snyder, Luann - (snyderlu) <Luann@nsma.arizona.edu>

Hi Mike and Amy,

Just thought I'd let you know that we made the September 25 deadline for the resubmission of the Precision Aging Network grant – with no errors in the NIH system (in spite of its massive size – 1282 pages)!!

I hope you will convey to the other Trustees how grateful we are for your support of the pilot project for the resubmission – these supporting data from our Tucson and Miami Institutes will be pivotal in establishing that we can mount the effort that we previously proposed. I have a very good feeling about the impending outcome – it is difficult to ‘wait’ (probably until May to find out exactly how we did) – but we will continue to work towards collecting as much data as we can right up until review, in case we are allowed to submit more preliminary data before the study section meets!

I am so grateful for the support from the MBRF!

Carol

C. A. Barnes, Ph.D.
Regents Professor, Psychology, Neurology and Neuroscience
Evelyn F. McKnight Chair for Learning and Memory in Aging
Director, Evelyn F. McKnight Brain Institute
Director, Division of Neural Systems, Memory and Aging
Life Sciences North Building, Room 355
P.O. Box 245115
University of Arizona
Tucson, AZ 85724-5115

University of Arizona MBI transition to the UA Department of Psychology

From: **Barnes, Carol A - (barnesca)** <carol@nsma.arizona.edu>

Date: Fri, Oct 2, 2020 at 2:41 PM

Subject: EMBI Tucson home moving

To: Mike Dockery, MD <Mike.Dockery@orthocarolina.com>

Cc: Amy Porter <aporter@mcknightbrf.org>, Snyder, Luann - (snyderlu) Luann@nsma.arizona.edu

Dear Mike,

I understand the Trustees have a board meeting soon, and wanted to give you a couple of updates on the status of UA EMBI.

1) You will be receiving the donor report from the UA Foundation sometime this month. That report will come from JP's office at the UA Foundation, per their usual donor report system, so I don't have anything to share in advance, but things are moving forward and I think the Board of Trustees will be pleased with the progress. We will also include that information in the Annual Scientific and Financial Report that we submit to MBRF every January.

2) UA EMBI is transitioning from Arizona Research Labs (ARL) to the Department of Psychology.

As background, the structure of the ARL has transitioned from supporting research units like EMBI to service units (providing core resources for the UA community). Psychology is the right place for EMBI to be, as Psychology has an active research mission, is the home of my primary appointment as Director and Regents Professor, EMBI Associate Director Lee Ryan is the Department Head of Psychology, and the majority of our brightest young faculty working on topics related to memory and the aging brain are Psychology faculty have been recruited over the last several years.

I did want to assure you this move is transparent for EMBI - an internal change in department numbers in the UA system. EMBI space, financial accounts, personnel will not be impacted other than residing under a new department number. EMBI has the full support of the Office of Research, Innovation and Impact and the UA Foundation, and they are maintaining all commitments and obligations.

Let me know if you have any questions.

Carol

C. A. Barnes, Ph.D.
Regents Professor, Psychology, Neurology and Neuroscience
Evelyn F. McKnight Chair for Learning and Memory in Aging
Director, Evelyn F. McKnight Brain Institute
Director, Division of Neural Systems, Memory and Aging
Life Sciences North Building, Room 355
P.O. Box 245115
University of Arizona
Tucson, AZ 85724-5115

American Brain Foundation Virtual Event

New Documentary 'Robin's Wish' Reveals Robin Williams' Battle with Deadly Brain Disease



Robin's Wish

A behind-the-scenes look at Robin Williams' battle with a deadly brain disease

—special guests—

Susan Schneider Williams and Tylor Norwood

AMERICAN BRAIN FOUNDATION

American Brain Foundation to host special live event Sept. 1st with ABF Vice Chair Susan Schneider Williams and director Tylor Norwood to discuss the making of the film, Robin's struggle with Lewy body dementia, and the legacy the iconic actor left behind.

2020 Next Generation Research Grant Recipients Announced
And
Online Virtual Celebration Held on
August 3, 2020



AMERICAN
BRAIN
FOUNDATION

2020 Research Award Recipients: American Academy of Neurology Awards funded by the American Brain Foundation

The American Brain Foundation has named 11 researchers as the recipients of its 2020 Next Generation Research Grants in support of neuroscience research and training. The program funds early-career researchers seeking to identify causes, improve treatments and discover cures for a spectrum of brain diseases and disorders.

The American Brain Foundation partners with the American Academy of Neurology (AAN) to support the Next Generation Research Grants program, funding the innovative research of early-career investigators

as they embark on their careers, encouraging passion for research and laying the groundwork for future success.

“American Brain Foundation’s continual investment in a broad range of outstanding research projects serves as a strong foundation for curing brain diseases and disorders which are an existential threat to millions of Americans,” said David W. Dodick, MD, FAAN, board chair. “When we fund the best and brightest minds to source the most high-risk and high-reward research, we move one step closer to discovering cures.”

Through the Next Generation Research Grants program, the Foundation cultivates a pipeline of early-career physicians and post-doctorates who seek a career in clinical neuroscience, and helps position them to secure additional funding. More than 85% of American Brain Foundation researchers have gone on to secure funding from the National Institutes of Health and other entities.

The American Brain Foundation brings researchers and donors together to invest in research across the whole spectrum of brain diseases and disorders. Because these brain diseases are interconnected, the Foundation believes that when we cure one of them, we will cure many.

Next Generation Research Grants are available to those who have recently completed residency or a PhD and are pursuing an academic career in research. Recipients are vetted and chosen by the AAN’s Science Committee.

Interested researchers may apply for the 2021 program through October 1, 2020, by visiting www.aan.com/education-and-research/research/aan-research-program.

For more information about the research program, to apply for a Next Generation Research Grant, make a donation, and more, visit www.americanbrainfoundation.org/researchers.

Recipient Name	Institution	Award	Funders	Award Length (Years)
Bryan Baxter, PhD	Massachusetts General Hospital	McKnight Clinical Translational Research Scholarship in Cognitive Aging and Age-Related Memory Loss	Funded by the McKnight Brain Research Foundation through the American Brain Foundation and the American Academy of Neurology.	2
Sheena Chew, MD	Massachusetts General Hospital	Clinical Research Training Scholarship in ALS	Funded by The ALS Association and American Brain Foundation, in collaboration with the American Academy of Neurology.	2
James Curtis, MS	Columbia University Teachers College	Clinical Research Training Scholarship in Parkinson's Disease	Funded by the Parkinson's Foundation and American Brain Foundation, in collaboration with the American Academy of Neurology.	2
Colin Ellis, MD	University of Pennsylvania	Susan S. Spencer, MD Clinical Research Training Scholarship in Epilepsy	Funded by the American Epilepsy Society, the Epilepsy Foundation, and American Brain Foundation, in collaboration with the American Academy of Neurology.	2
Sarah Getz, PhD	University of Miami	McKnight Clinical Translational Research Scholarship in Cognitive Aging and Age-Related Memory Loss	Funded by the McKnight Brain Research Foundation through the American Brain Foundation and the American Academy of Neurology.	2
Paloma Gonzalez-Perez, MD, PhD	Massachusetts General Hospital	Clinical Research Training Scholarship in Neuromuscular Disease	Funded by the Muscle Study Group and American Brain Foundation, in collaboration with the American Academy of Neurology.	2
Lenora Higginbotham, MD	Emory University	Clinical Research Training Scholarship in Dementia with Lewy Bodies	Funded by The Mary E. Groff Charitable Trust, the Alzheimer's Association, and the American Brain Foundation, in collaboration with the American Academy of Neurology.	2
Collin Kreple, MD, PhD	Washington University in St. Louis	Richard Olney Clinician Scientist Development Award in ALS	Funded by The ALS Association and American Brain Foundation, in collaboration with the American Academy of Neurology.	3
Farinaz Safavi, MD, PhD	National Institutes of Health	Clinician Scientist Development Award in Multiple Sclerosis	Funded by the National Multiple Sclerosis Society and the American Brain Foundation.	3
Lawren VandeVrede, MD, PhD	University of California, San Francisco	Robert W. Katzman, MD Clinical Research Training Scholarship in Alzheimer's and Dementia Research	Funded by the Alzheimer's Association and the American Brain Foundation, in collaboration with the American Academy of Neurology.	2
Alonso Zea Vera, MD	Cincinnati Children's Hospital Medical Center	Clinical Research Training Scholarship in Tourette Syndrome	Funded by the Tourette Association of America and American Brain Foundation, in collaboration with the American Academy of Neurology.	2

American Brain Foundation 2020 Research Celebration

Small Group Q & A

From: Brooke Martin <bmartin@aan.com>

Date: Tuesday, August 4, 2020 at 2:58 PM

To: <>,<[f](#)

Subject: Invitation: Small Group Research Q&A / Celebrations

Good Afternoon,

Thank you for attending the 2020 Research Celebration Event.

As mentioned on the call, in September, we will be hosting three one-hour small group Research Q&A / Celebrations. These calls are meant to facilitate conversation with the recipients. 5-7 recipients will be included in each call. Leadership from the AAN, ABF, and NINDS will be invited to attend as well as members from the Science Committee and Subcommittees.

As their mentor, department chair, or funding partner, we'd like to invite you to be there. Would you please let us know if you're available to attend by Wednesday, August 12th? Calendar invitations will be sent out shortly.

See below for specifics on awards and recipients to be covered in each call.

Note: you will be sent a calendar invite for any calls that include an award you are funding, recipients you are mentoring, or institutes you are chair of.

Group 1: September 9th, 4:00 – 5:00 pm CST

Award	Recipient	Institution
Career Development Award	Oluwole Awosika, MD	University of Cincinnati
Career Development Award	Hugo Aparicio, MD	Boston University Medical Center
Clinical Research Training Scholarship	Mark Etherton, MD, PhD	Massachusetts General Hospital
Neuroscience Research Training Scholarship	William Zeiger, MD, PhD	University of California, Los Angeles
Clinical Scientist Development Award in Multiple Sclerosis	Farinaz Safavi, MD, PhD	National Institutes of Health

Group 2: September 10th, 4:00 -5:00 pm CST

Award	Recipient	Institution
Clinical Research Training Scholarship in ALS	Sheena Chew, MD	Massachusetts General Hospital

Clinical Research Training Scholarship in Neuromuscular Disease	Paloma Gonzalez-Perez, MD, PhD	Massachusetts General Hospital
Richard Olney Clinician Scientist Development Award in ALS	Collin Kreple, MD, PhD	Washington University in St. Louis
Robert W. Katzman, MD, Clinical Research Training Scholarship	Lawren VandeVrede, MD, PhD	University of California, San Francisco
Clinical Research Training Scholarship	Carlyn Patterson Gentile, MD, PhD	Children's Hospital of Philadelphia
Practice Research Training Scholarship	Deanna Saylor, MD, MHS	Johns Hopkins University
McKnight Clinical Translational Research Scholarship in Cognitive Aging and Age-Related Memory Loss	Sarah Getz, PhD	University of Miami

Group 3: September 16th, 4:00 – 5:00 pm CST

Award	Recipient	Institution
Clinical Research Training Scholarship in Lewy Body Diseases	Lenora Higginbotham, MD	Emory University
Clinical Research Training Scholarship in Parkinson's Disease	James Curtis, MS, CCC-SLP, BCS-S	Columbia University Teachers College
Susan S. Spencer, MD, Clinical Research Training Scholarship in Epilepsy	Colin Ellis, MD	University of Pennsylvania
McKnight Clinical Translational Research Scholarship in Cognitive Aging and Age-Related Memory Loss	Bryan Baxter, PhD	Massachusetts General Hospital
Clinical Research Training Scholarship in Tourette Syndrome	Alonso Zea Vera, MD	Cincinnati Children's Hospital Medical Center
Neuroscience Research Training Scholarship	Richard Krolewski, MD, PhD	Brigham and Women's Hospital
Clinical Research Training Scholarship	David Lin, MD	Massachusetts General Hospital

Please let us know if you have any questions.

Thank you,
Brooke

Brooke M. Martin

Senior AM & Conferences Logistics Coordinator
American Academy of Neurology
201 Chicago Avenue
Minneapolis, MN 55415
Ph: 612-928-6154 Fax: 612.454.2753
bmartin@aan.com www.aan.com

Report on the 2nd Workshop on Research Definitions for Reserve and Resilience in Cognitive Aging and Dementia, September 14-15 2020

This Workshop and other activities of the Collaboratory on Research Definitions for Reserve and Resilience in Cognitive Aging and Dementia are funded by the NIA. The principal investigator of this Collaboratory, is Yaakov Stern from Columbia University. The goals of Collaboratory are to

- Organize three cross-discipline workshops to facilitate the development of definitions and research guidelines
- Establish focused work groups that will address key programmatic issues
- Develop a data sharing and information exchange platform
- Support pilot studies to validate and clarify proposed definitions and concepts
- Disseminate network resources to the field at large

First workshop

The first workshop took place on September 9-10, 2019 in Bethesda. It was sponsored in part by the McKnight Brain Research Foundation. Twenty-four experts in the field were invited to provide their specific operational definitions for concepts related to reserve and resilience. The workshop highlighted the diversity of terms and ideas regarding reserve and resilience. The breakout sessions also yielded vigorous discussion, but made it clear that more was needed to be done in order to reach consensus on definitions. Subsequently, the executive committee, speakers and chairs engage in multiple projects in order to move that process forward.

Data Sharing Workgroup:

This work focused on developing resources for data sharing and collaboration. We have collected information from researchers in the field who wish to provide data for analysis and develop pilot projects for collaborations. This list supported investigators planning pilot project applications (discussed below). The list is being actively updated and is hosted on our website

<https://reserveandresilience.com/available-human-cohorts/>

<https://reserveandresilience.com/available-animal-cohorts/>

We also have included a newly developed page that lists and describes research labs engaged in the reserve and resilience research in order to foster collaboration.

https://reserveandresilience.com/randr_investigators/

Non-Human Studies Workgroup

This group contributed to data sharing from nonhuman animals. In addition it submitted a manuscript for publication that suggests research operational research definitions for the concepts of cognitive reserve, brain maintenance, and compensation.

Dissemination

A website was established that is emerging as a valuable resource:

- Important background papers
- Slides and talks from the first Workshop
- Guides to shared data sets, both human and nonhuman
- Listing and descriptions of research labs engaged in work in this area This list was developed by the Reserve, Resilience and Protective Factors PIA
- From the second workshop: details of the accepted pilot proposals, including analysis plans as well as videos of all presentations.

Pilot Projects workgroup

This group shaped the request for pilot applications. They helped clarify how these proposals could assist the mission of the Collaboratory.

Call for Pilot Projects

The executive committee took into consideration the input from participants of the 1st workshop and proposed definitions for the concepts of cognitive reserve and brain maintenance <https://reserveandresilience.com/consensus-definitions/>

These definitions were the basis of the Call for the Pilot Projects, disseminated on April 20th, 2020. <https://reserveandresilience.com/call-for-pilot-projects/> Investigators from around the world were encouraged to apply. The collaboratory received 46 excellent applications, each reviewed and scored by 3 independent reviewers. 12 outstanding projects were chosen for the award. *The McKnight foundation contribution facilitated the funding of two of these 12 projects.*

The investigators were required to post their analytic plans online. This facilitates reproducibility. Also these provides concrete examples of research designs for other researchers to model.

Second Workshop on Research Definitions For Reserve and Resilience In Cognitive Aging and Dementia

The awarded pilot projects served as the focus of the Second Workshop on Research Definitions for Reserve and Resilience in Cognitive Aging and Dementia, which took place online on September 14 – 15, 2020. The main thrust of the workshop was to develop operational definitions for research on reserve and resilience. It was stressed that even if we might use different names for concepts, the procedures using our research might be the same, and agreement on these procedures can unify the field. The presentation of study designs from the pilot projects was intended to provoke discussion and reinforce this idea.

The Workshop was very successful. Overall there were 711 registrants for the meeting, 466 four day one and 468 four day to. 300 people attended the first day and 228 on the second day.. The workshop occurred over two days, with two sessions on each day. In each session, three pilot awardees presented their projects. This was followed by discussion from a selected panel, and then by discussion of all attendees. The video recordings of all the presentations are now posted at the event's website <https://reserveandresilience.com/2nd-workshop-videos/>

There was a great deal of discussion on both days, despite the limitations of the virtual/online meeting. Approximately one hour was left for discussion at each session and in each case there were still more questions to address. Some of these were answered online. We feel that this Workshop did accomplish the goal of fostering consensus for how to design research that investigates reserve and resilience.

Plans

There are several plans going forward:

- We will hold a workshop on data sharing for non-human animals. This is a relatively new area requires specific attention.
- We instituted a Peer Mentoring Circle, which has already had an initial meeting. This is intended to provide early-stage investigators with support in conceiving and conducting research regarding reserve and resilience. Smaller groups of investigators will meet with each other throughout the year and report back at the third Workshop
- Most importantly, we plan to develop a new Whitepaper that summarizes recommendations regarding research design for studies of reserve and resilience in both humans and nonhumans. This will be based on discussions from the meeting, as well as two papers, a Whitepaper on human studies led by Dr. Stern, and a recently submitted paper on guidelines for studying reserve and resilience in non-humans. This whitepaper will be the focus of several ongoing workgroups throughout the upcoming year. Each meeting will small groups of interested investigators, drawn from attendees from the past two Workshops, as well as any other interested investigators.
- Plan for the third Workshop, which will be held on October 31 - November 1 either in Bethesda, virtually, or both.

We thank the McKnight Brain Research Foundation for their ongoing generous support of the Collaboratory.

Reserve and Resilience

2nd WORKSHOP PROGRAM

VIRTUAL PROGRAM

MONDAY, September 14, 2020

10:00	10:25	Introduction/Welcome Notes	Yaakov Stern, PhD, <i>Columbia University</i>
-------	-------	----------------------------	---

SESSION 1

10:25	10:30	SESSION INTRODUCTION	Rich Jones, ScD, <i>Brown University</i>
-------	-------	----------------------	--

10:30	10:40	Disentangling typical proxies of CR in the pre-symptomatic window in a British Birth Cohort	Sarah-Naomi James, PhD, <i>University College London</i>
-------	-------	---	--

10:40	10:50	Reserve and Maintenance in AD; Effects on Individual Cognitive Trajectories (REMIND-ICT)	Colin Groot, PhD cand., <i>VU University Medical Center Amsterdam</i>
-------	-------	--	---

10:50	11:00	Aging and memory origins of heterogeneity in cognitive trajectories study	Eero Vuoksima, PhD, <i>University of Helsinki</i>
-------	-------	---	---

11:00	11:10	PANEL	Rich Jones, ScD, <i>Brown University</i> Lawrence Whalley, MD, <i>University of Aberdeen</i> Denise Park, PhD, <i>University of Texas at Dallas</i>
-------	-------	-------	---

11:10	11:50	Q&A	
-------	-------	-----	--

11:50	12:00	BREAK/NETWORKING	
-------	-------	------------------	--

SESSION 2

12:00	12:05	SESSION INTRODUCTION	Naftali Raz, PhD, <i>Wayne State University</i>
-------	-------	----------------------	---

12:05	12:15	Modelling brain and cognitive age to study cognitive reserve and resilience	Melis Anaturk, PhD, <i>University College London</i>
-------	-------	---	--

12:15	12:25	Improving the moderation and independent effect criteria of cognitive reserve	Rory Boyle, PhD cand., <i>Trinity College Dublin</i>
12:25	12:35	Defining a biological marker of cognitive reserve with deep learning from multimodal structural MRI	Anna Marseglia, PhD, <i>Karolinska Institute</i>
12:35	12:45	PANEL	Naftali Raz, PhD, <i>Wayne State</i> Sylvie Belleville, PhD, <i>University of Montreal</i> Emily Rogalski, PhD, <i>Northwestern University</i>
12:45	13:25	Q&A	
13:25	13:30	FINAL COMMENTS	

TUESDAY, September 15, 2020

SESSION 3

10:00	10:05	SESSION INTRODUCTION	John Disterhoft, PhD, <i>Northwestern University</i>
10:05	10:15	Cognitive training to enhance cognitive reserve in aging mice	Holly Hunsberger, PhD, <i>Columbia University</i>
10:15	10:25	Molecular markers to operationally define cognitive reserve	Brittney Ann Yegla, PhD, <i>University of Florida</i>
10:25	10:35	A test of the hypothesis that factors acting to protect synapse function will lead to an understanding of the biological basis on cognitive reserve	Daniel Gray, PhD, <i>University of Arizona</i>
10:35	10:45	PANEL	Catherine Kaczorowski, PhD, <i>Jackson Laboratory</i> Matt Huentelman, PhD, <i>TGen City of Hope</i> Jennifer Bizon, PhD, <i>University of Florida</i> John Disterhoft, PhD, <i>Northwestern University</i>
10:45	11:25	Q&A	
11:25	11:45	BREAK/NETWORKING	

SESSION 4

11:45	11:50	SESSION INTRODUCTION	Dan Mungas, PhD, <i>University of California, Davis</i>
11:50	12:00	Exploring multivariate metrics to benchmark functional brain maintenance	Gabriel Ziegler, PhD, <i>University Magdeburg</i>
12:00	12:10	Functional activation patterns to explain cognitive performance beyond brain structure and age	Christian Habeck, PhD, <i>Columbia University</i>
12:10	12:20	Decision tree testing cognition-MRI associations to define and differentiate CR and BM	Lidia Vaque-Alcazar, PhD, <i>University of Barcelona</i>
12:20	12:30	PANEL	Dan Mungas, PhD, <i>University of California, Davis</i> William Jagust, MD, <i>University of California, Berkeley</i> Prashanthi Vemuri, PhD, <i>Mayo Clinic</i>
12:30	13:10	Q&A	
13:10	13:30	FINAL COMMENTS	Yaakov Stern, PhD, <i>Columbia University</i>

2nd WORKSHOP PROGRAM

The Collaboratory is happy to announce the pilot project proposals selected for funding and presentation at the 2nd Workshop on Research Definitions for Reserve and Resilience in Cognitive Aging and Dementia:

Rory Boyle, PhD cand., *Trinity College Dublin*

James Cole, PhD, *University College London*

Brittney Yegla, PhD, *University of Florida*

Daniel Gray, PhD, *University of Arizona*

Colin Groot, PhD cand., *VU University MC Amsterdam*

Christian Habeck, PhD, *Columbia University*

Holly Hunsberger, PhD, *Columbia University*

Sarah-Naomi James, PhD, *University College London*

Anna Marseglia, PhD, *Karolinska Institute*

Lidia Vaque-Alcazar, PhD, *University of Barcelona*

Eero Vuoksima, PhD, *University of Helsinki*

Gabriel Ziegler, PhD, *University Magdeburg*

Congratulations to our winners and our thanks to all applicants for the first round of pilot proposals.

The 2nd workshop on Research Definitions for Reserve and Resilience was presented virtually. The workshop featured brief live presentations from our Pilot Project awardees followed up by panel discussions and ample Question and Answer sessions with the audience. **The intention was to try to come to consensus on operational definitions for the reserve/resilience concepts.**

2nd Workshop Supporters

Funding for the 2nd Workshop was made possible in part by a grant (R24 AG061421) from the National Institute on Aging.

The views expressed in written conference materials or publications and by speakers and moderators do not necessarily reflect the official policies of the Department of Health and Human Services; nor does mention by trade names, commercial practices, or organizations imply endorsement by the U.S. Government.



Significant funding for the 2nd Workshop provided by:



McKNIGHT BRAIN
RESEARCH FOUNDATION

— Preserving memory, enhancing life

1st Workshop Supporters

Funding for the 1st Workshop was made possible in part by a grant (R24 AG061421) from the National Institute on Aging.

The views expressed in written conference materials or publications and by speakers and moderators do not necessarily reflect the official policies of the Department of Health and Human Services; nor does mention by trade names, commercial practices, or organizations imply endorsement by the U.S. Government.



Significant funding for the 1st Workshop provided by:



alzheimer's association®

Additional funding for the 1st Workshop:



Staying Sharp



Alzheimer's
Drug Discovery
Foundation

McKnight Brain Research Foundation

Minimum Distribution Calculation

Fiscal years 2000 - 2020

<u>Market Value</u> <u>Dec 1999 -\$69,126,583</u>	<u>Tax Year</u>	<u>Distributable Amount</u>	<u>Qualifying</u> <u>Distributions</u>	<u>Excess Distributions</u> <u>Carryover</u>	<u>Undistributed Income</u>
\$51,867,213	7/1/03 - 6/30/04	\$2,352,435	\$1,665,404	\$5,266,241 (last year we could carryover gift to UF)	\$0.00
\$51,898,266	7/1/04 - 6/30/05	\$2,450,345	\$3,026,049	\$575,704	\$0.00
\$55,777,369	7/1/05 - 6/30/06	\$2,620,008	\$2,036,659	\$0	\$7,645.00
\$62,782,831	7/1/06 - 6/30/07	\$2,843,725	\$3,299,931	\$448,561	\$0.00
\$54,753,484	7/1/07 - 6/30/08	\$2,817,569	\$3,110,508	\$292,939	\$0.00
\$39,447,094	7/1/08-6/30/09	\$2,016,762	\$2,517,340	\$500,578	\$0.00
\$39,991,364	7/1/09-6/30/10	\$1,952,550	\$3,789,616	\$1,837,066	\$0.00
\$44,648,921	7/1/10-6/30/11	\$2,058,313	\$3,983,492	\$1,925,179	\$0.00
\$41,206,393	7/1/11-6/30/12	\$1,973,938	\$2,615,808	\$641,870	\$0.00
\$43,820,218	7/1/12 -6/30/13	\$2,020,034	\$2,434,496	\$414,462	\$0.00
\$50,408,385	7/1/13-6/30/14	\$2,246,743	\$2,298,603	\$51,860	\$0.00
\$50,025,982	7/1/14 - 6/30/15	\$2,309,295	\$3,190,468	\$753,267	\$0.00

<u>Market Value</u> <u>Dec 1999 - \$69,126,583</u>	<u>Tax Year</u>	<u>Distributable Amount</u>	<u>Qualifying</u> <u>Distributions</u>	<u>Excess Distributions</u> <u>Carryover</u>	<u>Undistributed Income</u>
\$43,374,433	7/1/15 - 6/30/16	\$2,156,876	\$4,896,096	\$2,739,220	\$0.00
\$45,020,486	7/1/16 - 6/30/17	\$2,197,291	\$3,463,554	\$1,266,263	\$0.00
\$48,399,735	7/1/17 - 6/30/18	\$2,290,460	\$2,662,616	\$372,156	\$0.00
\$46,247,121	7/1/18- 6/30/19	\$2,308,639	\$2,028,707		
\$49,211,422	7/1/19 - 6/30/2020	\$2,400,291 (estimate)	\$2,571,680 (estimate)	\$171,388 (estimate)	
\$52,861,174	7/1/20 - 6/30/2021	\$2,450,021 (estimate)	\$2,571,680 (estimate)	\$121,658 (estimate)	
			\$63,266,177.13	\$1,931,465	(estimated total excess carryover)

McKnight Brain Research Foundation

Projected Minimum Investment Return Calculations

(As of 3/24/2020 for fiscal year ending 9/30/2020)

Average Fair Market Value	\$49,746,628.67
Less:	
Cash held for charitable purposes (1 1/2 %)	<u>(\$746,199.43)</u>
Net value of non-charitable use assets	\$49,000,429.24
Minimum Investment Return (5%)	\$2,450,021.46

Net Minimum Investment Return Calculation:

Minimum investment return	<u>\$2,450,021.46</u>
sub total Qualifying Distributions	<u>(\$2,571,680.00)</u>
	<u>(\$121,658.54)</u>
 Excess distribution carryover (actual for '16,'17, '18)	 \$1,638,419.00
 (estimate for '19, '20)	 <u>\$293,046.91</u>
	\$1,931,465.91

McKnight Brain Research Foundation
Gifts, Grants and Pilot Grants Summary
Fiscal years 2000 - 2025

GIFTS	<i>University of Alabama</i>	<i>University of Arizona</i>	<i>University of Florida</i>	<i>University of Miami</i>	<i>FNIH</i>	<i>American Brain Foundation</i>
	\$5,000,000 (5/15/2004) \$1,000,000 (10/19/2005) \$6,000,000 (8/3/2009)	\$5,000,000 (10/17/2006) \$300,000 (7/10/2008) \$5,600,000 (5/1/2014)	\$15,000,000	\$5,000,000 (7/3/2003) \$2,000,000 (date tbd)**	\$5,000,000 (5/6/2008) \$5,000,000 (10/2013) \$5,000,000 (6/2018)	\$1,650,000 (6/1/2017)
7/1/99 -6/30/00			\$15,000,000			
7/1/00 -06/30/01						
7/1/01 - 06/30/02						
7/1/02 - 6/30/03						
7/1/03 - 6/30/04				\$1,500,000		
7/1/04 - 6/30/05	\$2,000,000			\$875,000		
7/1/05 - 6/30/06	\$1,000,000			\$875,000		
7/1/06 - 6/30/07	\$1,000,000	\$1,000,000		\$875,000		
7/1/07 - 6/30/08	\$1,000,000	\$1,000,000		\$875,000		
7/1/08-6/30/09	\$1,000,000	\$1,300,000				
7/1/09-6/30/10	\$1,500,000	\$1,000,000			\$1,000,000	
7/1/10-6/30/11	\$1,500,000	\$1,000,000			\$1,000,000	
7/1/11-6/30/12	\$1,000,000				\$1,000,000	
7/1/12-6/30/13	\$1,000,000				\$1,000,000	
7/1/13-6/30/14	\$1,000,000				\$1,000,000	
7/1/14-6/30/15		\$200,000		\$1,000,000	\$1,000,000	
7/1/15-6/30/16		\$1,200,000		\$500,000	\$2,000,000 **	
7/1/16-6/30/17		\$1,200,000		\$500,000	\$1,000,000	
7/1/17-6/30/18		\$1,000,000			\$1,000,000	
7/1/18-6/30/19		\$1,000,000				\$165,000
7/1/19-6/30/20		\$1,000,000				\$330,000
7/1/20-6/30/21					\$1,000,000	\$330,000
7/1/21-6/30/22					\$1,000,000	\$330,000
7/1/22-6/30/23					\$1,000,000	\$330,000
7/1/23-6/30/24					\$1,000,000	\$165,000
7/1/24 - 6/30/25					\$1,000,000	
Total	\$12,000,000	\$10,900,000	\$15,000,000	\$7,000,000	\$15,000,000	\$1,650,000
Balance	\$0	\$0	\$0	\$0	\$5,000,000	\$968,000

Total Gift *

\$61,550,000

Remaining Balance of Gifts *

\$6,298,000

** payment date has been changed from 7/1 to 5/1 so in the 7/1/2015 - 6/30/2016 FY they will receive two payments: 7/1/2015, 5/1/2016

McKnight Brain Research Foundation

Gifts, Grants and Pilot Grants Summary

Fiscal years 2000 - 2024

Page 2

\$600,000

Total Grants

\$7,971,049.82

Remaining Balance of Grants

\$860,982.44

McKnight Brain Research Foundation
Gifts , Grants and Pilot Grants Summary
Fiscal years 2000 - 2024

PILOT GRANTS	A Novel Invention Tool (Levin) \$60,000 (5/1/2018) \$60,000 (5/1/2019)	Revitalizing Cognition in Older Adults (Bowers) \$60,000 (5/1/2018) \$60,000 (5/1/2019)	Transcutaneous Vagal Nerve Stimulation (Williamson) \$60,000 (10/1/2019) \$60,000 (10/1/2020)	Evelyn F. McKnight Neurocognitive Post-Doctoral \$100,000 (6/30/2020) \$100,000 (6/30/2021)
7/1/99 - 6/30/00				
7/1/00 - 6/30/01				
7/1/01 - 6/30/02				
7/1/02 - 6/30/03				
7/1/03 - 6/30/04				
7/1/04 - 6/30/05				
7/1/05 - 6/30/06				
7/1/06 - 6/30/07				
7/1/07 - 6/30/08				
7/1/08 - 6/30/09				
7/1/09 - 6/30/10				
7/1/10 - 6/30/11				
7/1/11 - 6/30/12				
7/1/12 - 6/30/13				
7/1/13 - 6/30/14				
7/1/14 - 6/30/15				
7/1/15 - 6/30/16				
7/1/16 - 6/30/17				
7/1/17 - 6/30/18				
7/1/18 - 6/30/19	\$11,256.57 UF	\$6,799.94 UF		
	\$33,845.70 UF			
7/1/19 - 6/30/20	\$40,000 UM	\$14,581.29 UF	\$9,881.16 UF	\$100,000.00
7/1/20 - 6/30/21	\$427.85 UF		\$4,778.78 UF	
7/1/21 - 6/30/22				
7/1/22 - 6/30/23				
7/1/23 - 6/30/24				
7/1/24 - 6/30/25				
Total	\$120,000.00	\$120,000.00	\$120,000.00	\$200,000.00
Balance	\$34,469.88	\$98,618.77	\$105,340.06	\$100,000.00

Total Pilot Grants

\$560,000.00

Remaining Balance of Pilot Grants

\$338,428.71

Travel Award Program

Date	Name	School	Amount
5/6/2009	Marsha Penner	University of Alabama	\$1,305.43
11/4/2010	Clinton Wright	University of Miami	\$1,005.26
11/20/2010	Gene Alexander	University of Arizona	\$354.39
7/26/2011	Gene Alexander	University of Arizona	\$1,006.74
8/3/2011 - 8/4/2011	Cognitive Test Battery Working Group - Retreat #1	University of Alabama, University of Arizona, University of Florida, University of Miami	\$7,505.06
12/1/2011 - 12/2/2011	Cognitive Test Battery Working Group - Retreat #2	University of Alabama, University of Arizona, University of Florida, University of Miami	\$10,971.11
4/10/2012 - 4/11/2012	Cognitive Test Battery Working Group - Meeting #3	University of Alabama, University of Arizona, University of Florida, University of Miami	\$4,280.42
8/1/2012 - 8/3/2012	MRI Standardization Working Group Meeting	University of Alabama, University of Arizona, University of Florida, University of Miami	\$10,540.91
8/8/2012 - 8/9/2012	Cognitive Test Battery Working Group - Meeting #4	University of Alabama, University of Arizona, University of Florida, University of Miami	\$4,273.80
8/13/2012 - 8/14/2012	Epigenetics Planning Meeting	University of Alabama, University of Arizona, University of Florida, University of Miami	\$7,122.85
1/8/2013 - 1/9/2013	Epigenetics Planning Meeting	University of Alabama, University of Arizona, University of Florida, University of Miami	\$10,684.25
	MRI Standardization - Scanning Project	University of Alabama, University of Arizona, University of Florida, University of Miami	\$1,735.38
4/8/2013 - 4/10/2013	MRI Standardization Working Group Meeting #2	University of Alabama, University of Arizona, University of Florida, University of Miami	\$7,851.43
12/6/2013	MRI Standardization	University of Florida & University of Miami	\$1,094.90
8/2016	Brain and Cognitive Health Working Group	University of Alabama, University of Arizona, University of Florida, University of Miami	\$10,454.20
		Total Spent	\$80,186.13

MBRF Operating Communications Budget
7/1/2020 - 6/30/2021

Operating Expenses			Communications Expenses		
		Year to Date			Year to Date
Board of Trustee Fees	\$240,000.00	\$60,000.00	LookThink	\$50,000.00	\$9,900.00
Legal Fees	\$23,976.25	\$7,315.00	Moonlight Media	\$1,000.00	
CPA Fees	\$21,728.50	\$500.00	Neurology Ads	\$4,590.02	\$175.00
Consulting Fees *	\$114,583.25	\$27,499.98	Consulting Fees *	\$74,731.26	\$19,661.00
SunTrust Bank Fees	\$145,996.48	\$38,647.26	Total Communications Expenses	\$130,321.28	\$29,736.00
Taxes	\$111,500.00		* represent payment to Senior Communications Advisor		
Meetings	\$19,074.98				
Website Fees	\$1,500.00				
Memberships	\$765.00				
Insurance	\$1,625.00				
Total Operating Expenses	\$680,749.46	\$133,962.24			

* represent payment to Executive Director

Budget approved at the 7/22/2020 Trustees' Meeting



September 29, 2020

Michael L. Dockery, MD
Richard Isaacson, MD
Susan L. Pekarske, MD
Gene G. Ryerson, MD
Madhav Thambisetty, MD, PhD
Robert M. Wah, MD
J. Lee Dockery, MD, Emeritus

The Evelyn F. McKnight Brain Research Foundation
SunTrust Bank
Mail Code FL-ORL-1503
333 S. Garland Avenue, 15th Floor
Orlando, FL 32801

Dear Trustees:

On behalf of the University of Miami Leonard M. Miller School of Medicine, please find enclosed the growth pool annual investment report for the fiscal year ending May 31, 2020. Per the terms of our gift agreement (section 7.3) the University of Miami forwards this report to you annually. I have also included the market value analysis for the endowment for the same fiscal period.

Should you have any questions, please feel free to contact Susan Fox-Rosellini at (305) 243-5198.

Thank you for your continued support and collaboration in our efforts.

Warmest regards,

Ralph L. Sacco MD, MS, FAHA, FAAN
Chairman Department of Neurology
Olemberg Family Chair in Neurological Disorders
Executive Director, EvelynNF. McKnight Brain Institute
Director, Clinical and Translational Science Institute
Senior Associate Dean for Clinical and Translational Science
Miller Professor of Neurology, Public Health Sciences, Human Genetics and Neurosurgery
Leonard M. Miller School of Medicine
Immediate Past President, American Academy of Neurology 2019-21

Enclosures

cc: Tatjana Rundek, MD, PhD
Susan Fox-Rosellini, MBA.

Amy Porter
Melanie A. Cianciotto

UNIVERSITY OF MIAMI - ALL MANAGED ASSETS

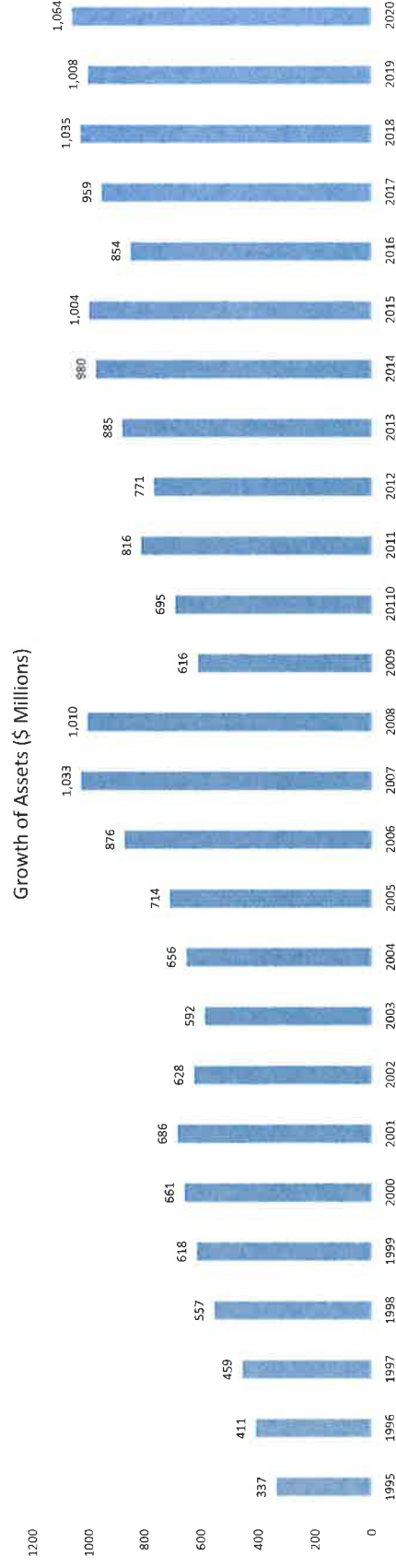
Performance Periods Ending: May 31, 2020

Total Returns (Periods Greater Than 1 Year are Annualized)							
Growth Pool	Inception	1 Year (%)	3 Year (%)	5 Year (%)	7 Year (%)	10 Year (%)	
Growth Pool Total Composite*	12/31/1990	2.2	3.8	4.0	5.1	6.6	
Growth Pool Market Benchmark**	12/31/1990	4.4	4.4	4.8	6.0	7.7	
Value (+/-)		-2.2	-0.6	-0.8	-0.9	-1.1	

Inception-to-Date Growth Pool Risk/Return as of May 31, 2020			
Growth Pool	15 Year Return	15 Year Standard Deviation	
Growth Pool Total Composite	5.4	10.3	
Growth Pool Market Benchmark	5.6	11.3	

*Net of fee returns

** A weighted average return derived by applying the target policy weights of each asset class to the performance of the asset class benchmarks

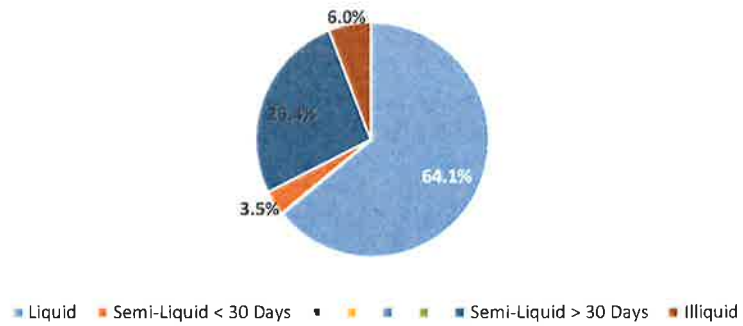


UNIVERSITY OF MIAMI - GROWTH POOL
Manager Structure - Market Values and Allocations Period Ending May 31, 2020

Growth Pool			
Manager	Asset Class	Market Value (\$)	% of Total Fund
Large/Mid/All Cap Equity		382,994,957	36.0%
Vanguard Institutional Index (10/31/14)	US Large Cap Core Equity	187,223,860	17.6%
Adage Capital Mgmt (6/30/04)	US Large Cap Core Equity	101,767,550	9.6%
Columbia Dividend Income (2/2/17)	US Large Cap Core Equity	24,982,091	2.3%
MFS Large Cap Value (2/2/17)	US Large Cap Value Equity	17,466,153	1.6%
Earnest Partners Mid Cap (8/31/2018)	US Midcap Value Equity	16,049,391	1.5%
Janus Enterprise Mid Cap Growth (2/2/17)	US Midcap Growth Equity	16,403,731	1.5%
Vanguard Mid Cap (2/2/17)	US Midcap Core Equity	19,102,181	1.8%
Small Cap Equity		55,062,559	5.2%
Ariel Small Cap (8/31/2018)	US Small Cap Value Equity	28,335,039	2.7%
Vanguard Small Cap (2/2/17)	US Small Cap Equity	26,727,520	2.5%
International Equity		265,707,850	25.0%
Developed International Equity		188,619,457	17.7%
Silchester International (6/30/05)	Non-US DM/EM Value Equit	55,085,201	5.2%
Vanguard Developed Markets (2/2/17)	Non-US DM Core Equity	111,033,515	10.4%
GQG International (4/1/2020)	Non-US DM Core Equity	22,500,741	2.1%
Emerging Markets		77,088,393	7.2%
Neuberger Berman (9/30/2018)	Non-US EM Equity	28,215,120	2.7%
Vanguard FTSE Emerging Markets (2/2/17)	Non-US EM Equity	29,525,420	2.8%
WGI Emerging Markets (10/31/08)	Non-US EM Equity	19,347,853	1.8%
Total Alternative Investments		149,297,598	14.0%
Credit Strategies		32,918,577	3.1%
Davidson Kempner (10/01/93)	Credit Strategy	14,578,418	1.4%
Watershed Capital (1/01/08)	Credit Strategy	-	0.0%
Regiment Capital (6/30/07)	Credit Strategy	38,442	0.0%
Octagon CLO III (1/31/2019)	Credit Strategy	2,333,994	0.2%
Shenkman Opp Crd (8/31/2018)	Credit Strategy	15,967,723	1.5%
Equity Long/Short		59,142,620	5.6%
Viking Global Equities III (11/30/10)	Equity Long/Short	27,200,700	2.6%
Renaissance Institutional (8/31/17)	Equity Long/Short	31,664,097	3.0%
Glenview Capital Management (2/01/06)	Equity Long/Short	277,823	0.0%
Multi-Strategy		57,236,401	5.4%
AQR Risk Parity (2/21/17)	Multi-Strategy	29,641,483	2.8%
AQR Style Premia (12/14/16)	Multi-Strategy	12,100,160	1.1%
Janus Multi-Strat (4/1/20)	Multi-Strategy	15,494,758	1.5%
Private Equity		39,273,605	3.7%
TIFF Partners IV (01/31/01)	Private Equity	249,835	0.0%
TIFF Partners V (04/30/04)	Private Equity	158,266	0.0%

Manager	Asset Class	Market Value (\$)	% of Total Fund
Private Equity (continued)			
TIFF Partners 2006 (04/30/06)	Private Equity	251,903	0.0%
TIFF Partners 2007 (01/31/07)	Private Equity	1,361,081	0.1%
TIFF Partners 2008 (01/31/08)	Private Equity	3,690,928	0.3%
ESG Fieldcrest Cannon	Private Equity	2,500	0.0%
OCM Principal Opportunities IV (12/31/06)	Private Equity	63,081	0.0%
Denham Commodity Fund V (6/30/08)	Private Equity	487,355	0.0%
Clayton, Dubilier & Rice Fund IX (5/31/2014)	Private Equity	6,701,313	0.6%
Carlyle Strategic IV (11/30/16)	Private Equity	2,641,916	0.2%
KKR Americas XII (9/30/16)	Private Equity	5,390,487	0.5%
HIG Advantage Buyout (4/30/18)	Private Equity	732,465	0.1%
Carlyle Partners VII (12/31/2018)	Private Equity	3,356,178	0.3%
Apollo Investment Fund IX (3/15/2019)	Private Equity	1,297,554	0.1%
Silver Lake Partners (6/30/2018)	Private Equity	7,121,483	0.7%
General Atlantic (12/31/19)	Private Equity	716,431	0.1%
CINVEN Fund VII (1/31/19)	Private Equity	1,157,553	0.1%
Broadway Strategic (6/30/19)	Private Equity	1,029,628	0.1%
Spark Capital (5/31/19)	Private Equity	216,666	0.0%
Spark Growth III (2/29/20)	Private Equity	300,000	0.0%
Vista Equity Partners (6/30/2018)	Private Equity	2,346,982	0.2%
Private Real Assets		35,282,270	3.3%
WCP Real Estate Fund I (7/31/06)	Private Real Assets	97,404	0.0%
WCP Real Estate Fund II (11/30/08)	Private Real Assets	1,280,504	0.1%
Metropolitan Real Estate Fund (9/30/06)	Private Real Assets	183	0.0%
SRI Nine REIT (3/31/08)	Private Real Assets	623,730	0.1%
LBA Realty IV (10/31/09)	Private Real Assets	1,099,681	0.1%
Warburg Energy (5/31/14)	Private Real Assets	5,799,813	0.5%
Ishares Inf. Global ETF (6/30/2018)	Public Real Assets	13,755,167	1.3%
ITE Rail (1/31/20)	Private Real Assets	5,865,946	0.6%
JPMorgan GTIF (2/29/20)	Private Real Assets	5,005,760	0.5%
GS Renew PWR LLC (8/31/2018)	Private Real Assets	1,754,082	0.2%
Total Fixed		132,188,160	12.4%
CIFC Sr. Secured Corp Fund (8/31/2018)	Corporate Bonds	25,105,461	2.4%
PIMCO Income Fund (7/24/17)	Aggregate Bonds	21,938,215	2.1%
Prudential US High Yield (2/2/17)	High Yield Bonds	20,008,199	1.9%
SSGA 1-3 YR UST (7/31/19)	Short Duration Bonds	45,785,714	4.3%
SSGA US Agg (7/31/19)	Aggregate Bonds	19,350,571	1.8%
Cash		4,621,486	0.4%
Total Managed Assets		1,064,428,485	100.0%
Allocation to Index or Enhanced Index Strategies			
		Growth Pool	
% of Total:		41.2%	

UNIVERSITY OF MIAMI - GROWTH POOL
Portfolio Liquidity Restrictions: Based on Market Value



UNIVERSITY OF MIAMI - GROWTH POOL
Inception to Date Performance vs. Relevant Benchmark(s)
Periods ending - May 31, 2020
Net of Fees

Total Returns (%) - Annualized if Greater than 1	ROR	Value Added (+/-)	Years
Large/Mid/All Cap Equity			
Vanguard Institutional Index (9/30/14)	9.67	-0.53	5.7
S&P 500	10.2		5.7
Adage Capital Mgmt (6/30/04)	11.28	2.57	15.9
S&P 500	8.71		15.9
Earnest Partners Mid Cap (8/31/2018)	3.91	5.02	1.8
Russell Midcap	-1.11		1.8
Columbia Dividend Income (2/2/17)	9.75	-1.32	3.3
Russell 1000 Value	11.07		3.3
MFS Large Cap Value (2/2/17)	5.74	2.7	3.3
Russell 1000 Value	3.04		3.3
Janus Enterprise Mid Cap Growth (2/2/17)	13.89	-1.09	3.3
Russell Midcap Growth	14.98		3.3
Vanguard Mid Cap (2/2/17)	7.02	-0.03	3.3
CRSP MidCap Index	7.05		3.3
Small Cap Equity			
Ariel Small Cap (8/31/2018)	-11.62	5.38	1.8
Russell 2000 Value	-17		1.8
Vanguard Small Cap (2/2/17)	4.13	0.07	3.3
CRSP US Small Cap TR Index	4.06		3.3
Developed International Equity			
Silchester International (6/30/05)	6.35	2.42	14.9
MSCI EAFE Value ND	3.93		14.9
GQG International (4/1/20)	12.5	1.4	0.2
MSCI ACWI ex US	11.1		0.2
Vanguard Developed Markets (10/31/2014)	2.1	-0.23	5.6
FTSE Dev All Cap ex US	2.33		5.6
Emerging Markets			
Neuberger Berman (9/30/2018)	-3.59	1.06	1.7
MSCI Emerging Markets ND	-4.65		1.7
Vanguard FTSE Emerging Markets (2/2/17)	2.26	-0.63	3.3
MSCI Emerging Markets ND	2.89		3.3
WGI Emerging Markets (10/31/08)	7.5	5.34	1.6
MSCI Emerging Markets ND	2.16		1.6
Credit Strategies			
Davidson Kempner (10/01/93)	8.33	0.05	26.7
HFR Event-Driven	8.28		26.7
Shenkman Opp Crd (8/31/2018)	4.8	9.83	1.8
HFRI ED: DIST RS (USD)	-5.03		1.8
Equity Long/Short			
Viking Global Equities III (11/30/10)	10.45	1.89	9.5
MSCI World Index	8.56		9.5
Renaissance Institutional (8/31/17)	-0.98	-5.28	2.8
MSCI ACWI ND	4.3		2.8
Multi-Strategy			
Janus Multi-Strat (4/1/20)	3.3	3.29	0.2

Total Returns (%) - Annualized if Greater than 1	ROR	Value Added (+/-)	Years
FTSE 1-Month T-Bill	0.01		0.2
AQR Risk Parity (2/21/17)	4.56		3.3
60 MSCI AC WORLD/40 BB Barclays U.S. Aggregate	6.17		3.3
AQR Style Premia (12/14/16)	-10.11	-11.73	3.5
ICE ML 3M US Treasury Bill	1.62		3.5
Fixed Income			
SSGA US Agg (7/31/19)	6.33	-1.49	0.8
BB Barclays U.S. Aggregate	7.82		0.8
Pimco Income Fund (7/24/17)	2.63	-2.54	2.9
BB Barclays U.S. Aggregate	5.17		2.9
Prudential US High Yield (2/2/17)	4.15	0.47	3.3
BB Barclays U.S. Corporate High Yield	3.68		3.3
CIFC Sr. Secured Corp Fund (8/31/2018)	0.24	0.46	1.8
S&P/LTSA Lev Loan Index	-0.22		1.8
SSGA 1-3 YR UST (7/31/19)	3.66	-0.56	0.8
BB Barc US Agg Treasury 1-3 Yrs	4.22		0.8

Evelyn F. McKnight Brain Institute's Endowments
at the Miller School of Medicine
Market Value Analysis
05/31/2020

2002 Gift & Match

McKnight Contribution	\$5,000,000
UM Match	5,050,913
Transfers from Other University Funds	1,362,153
Investment Return	6,562,640
Distributions for Spending	(6,603,157)
05/31/20 Endowment Balance	<u>\$11,372,549</u>
Unmatched Balance	<u>\$0</u>

2014 Gift & Match

McKnight Contribution	\$2,000,000
UM Match	2,000,000
Transfers from Other University Funds	0
Investment Return	946,061
Distributions for Spending	(768,525)
05/31/20 Endowment Balance	<u>\$4,177,536</u>
McKnight Foundation Pledge Balance	<u>\$0</u>

University of Miami
Evelyn F. McKnight Brain Institute's Endowments
Summary Analysis at Market Value
June 1, 2019 - May 31, 2020

2002 Gift & Match

	Evelyn F. McKnight 262080	F. Peterson/ McKnight 262293	Schoning Professorship in Neurology 262453	Schoning Neuropsychology Clinic 262454	Other sources	Total
Beginning Balance at Market, 6/1/19	\$7,072,945	\$1,094,251	\$993,576	\$2,483,938	\$0	\$11,644,710
Investment Return	148,689	23,004	20,887	52,218		244,797
Distributions for Spending	(313,998)	(48,579)	(44,109)	(110,273)		(516,960)
Transfers from other University funds						0
Matching gifts						0
Ending Balance at Market, 05/31/20	\$6,907,635	\$1,068,676	\$970,354	\$2,425,883	\$0	\$11,372,549

2014 Gift & Match

	Schoning Professor in Memory Disorders 262471	Evelyn F. McKnight Endowed Chair 262490			Total
Beginning Balance at Market, 6/1/19	\$2,034,659	\$2,242,851	\$0	\$0	\$4,277,510
Investment Return	42,773	47,150			89,923
Distributions for Spending	(90,327)	(99,570)			(189,897)
Transfers from other University funds					0
Matching gifts					0
McKnight Foundation gifts					0
Ending Balance at Market, 05/31/20	\$1,987,103	\$2,190,430	\$0	\$0	\$4,177,536

Membership & Governance Committee Activity Timeline
For the One-Year Period July 1, 2020, to June 30, 2021

Updated October 7, 2020

Duty (from Committee Charter)	Activity/Action	Outcome	Date	Comments
<i>“identify, recruit and recommend candidates for appointment or re-election of current Trustees, consistent with applicable qualifications...”</i>	Determine ideal size of Board	Size of 7 Trustees, plus 1 Corporate Trustee and 1 Chair Emeritus established as goal (Maximum number is 11)	June 27, 2019	DONE
	Update/Revise Orientation Packet for New Trustees	The Packet required the addition of new material, updated committee and program information	October 5, 2020	Completed and presented to new Trustees and posted on secure site
	Review appointment and retirement dates	Target: 1 or 2 New Trustees in 2020; 1 or 2 in 2021; 1 in 2024; 1 in 2025 to maintain board size of 7	June 27, 2019	DONE
	Review, discuss and determine expertise needed on Board	Behavioral Neurologists	June 27, 2019	DONE
Duty	Request Board names from MBRF Trustees, MBI Leadership, CWG Members and NIA contacts Dr. Lee Dockery reached out to Drs. Brashear and Boyle. They sent CVs.	Names and bios of several candidates were provided Both Candidates indicated interest. Interviews held in September Unanimous Vote to Appoint both Dr. Boyle and Dr. Brashear	Nov/Dec 2019 March/April 2020 Rescheduled for July Meeting- CANCELED Due to Covid-19 October 14, 2020	Names discussed at January 6 Meeting Two selected for Trustee review at Feb 5 Mtg Dr. Brashear and Dr. Boyle New Trustees to attend October 14, 2020 Trustees' Meeting

(from Committee Charter)	Activity/Action	Outcome	Date	Comments
<i>“identify, recruit, and recommend...” Continued</i>	Develop Process for Recruiting, Vetting, and Recommending Candidates (Summary of Steps Below)	Committee Reviewed and Edited	September 30, 2019	Document was shared with Trustees at October 2019 Meeting
	<i>Names Submitted to/Reviewed by Committee</i>			✓
	<i>Selected Names Forwarded to Board with vetting information and Committee recommendation</i>			✓
	<i>Board selects Candidates to contact</i>			✓
	<i>Nominator and/or Executive Director contact candidate(s) to assess interest and request CV</i>			✓
	<i>Committee conducts further vetting, ranks candidate(s), and makes final recommendation to Board</i>			✓
	<i>Board selects finalist, invites to interview, can invite to attend events or meetings as well. Trustees vote on appointment. Vote must be unanimous</i>			✓
	<i>New Trustee(s) notified and welcomed. Orientation provided by Chair Emeritus with information provided by Corporate Trustee and Executive Director</i>			✓

Duty (from Committee Charter)	Activity/Action	Outcome	Date	Comments
<i>“oversee annual Board self-evaluations”</i>	Review of the Committee's charge to conduct and monitor the Trustee Self-Assessment Process	Current Self-Assessment form and Commitment Form reviewed.	September 2019 October 2019 January 2020 Next Self-Assessment will be January 2021	The Committee developed new self-assessment form and the Trustees provided feedback and edits. New form will be used for next self-assessment.
	Identify needed questions and revisions to the current Trustee Self-Assessment Form			DONE
	Decide to send either current form or revised form in January with responses due to corporate trustee in one – two weeks		December 2019 January 2020	MBRF Proceeded as has in the past DONE
	Discuss whether to develop Board Self-Assessment to review progress toward Board goals		March 2020 Consider in 2021	Request for Suggestions to improve Board were added to Self-Assessment Form
<i>“...make recommendations on structure, charters, policies, process and practices...”</i>	Align policy with practice for length of service	Board approved change in policy to allow a “maximum of 9 years” service		DONE

Duty (from Committee Charter)	Activity/Action	Outcome	Date	Comments
<i>"...structure, charters, policies, process..." Continued</i>	Approve role of first Chair Emeritus	Board developed and approved by unanimous consent in email	July 2019	DONE
	Approve role of Trustee Emeritus/ae	Board approved; Recognition provided	July 31, 2019	DONE
	Review/revise "Qualifications for Trustees"	Expanded to non-MD, non-PhD candidates to include those..." active in a Field or profession of Value in advancing the mission and purpose of the MBRF."	July 31, 2019	DONE
	Develop criteria for Trustee Reappointment. Base on Board Duties and Responsibilities	There is no current, written criteria for re-election	Jan/Feb 2020 Draft criteria developed by Committee Approved by Trustees on July 22, 2020	Trustees to review Summary of Recruitment, Election and Re-election document on July 22. No Trustee re-elections or retirements in 2020. Two retirements in 2021 (April and August)

MBRF Trustee Appointment History and Terms

October 2020

	First Appointment	Renewal Second Term	Renewal Third Term	Conclusion of Board Service if Extended For 3 rd Term
<u>Trustees</u>				
Michael L. Dockery, MD	May 26, 1999	n/a	n/a	Founding Trustee Permanent Appointment Oct. 1, 2029
Patricia Boyle, PhD	Oct. 1, 2020	Oct. 1, 2023	Oct. 1, 2026`	Oct. 1, 2029
Allison Brashear, MD, MBA	Oct. 1, 2020	Oct. 1, 2023	Oct. 1, 2026	Oct. 1, 2029
Richard S. Isaacson, MD	April 27, 2016	April 10, 2019	April 27, 2022	April 27, 2025
Susan L. Pekarske, MD	July 1, 2018	July 1, 2021	July 1, 2024	July 1, 2027
Gene G. Ryerson, MD	April 11, 2012	April 29, 2015	April 4, 2018	April 11, 2021
Madhav Thambisetty, MD, PhD	August 12, 2015	July 16, 2018	August 12, 2021	August 12, 2024
Robert M. Wah, MD	August 8, 2012	August 12, 2015	July 16, 2018	August 8, 2021
<u>Suntrust Corporate Trustee</u>				
Melanie Cianciotto	May 26, 1999	n/a	n/a	Duration of Tenure
<u>Emeritus Trustees</u>				
J. Lee Dockery, MD	May 26, 1999	n/a	n/a	Founding Trustee, Chair Emeritus Permanent Appointment
Nina Ellenbogen Raim, MD, JD	May 26, 1999	n/a	n/a	Trustee Emerita, April 10, 2019

Trustee Appointment History and Terms
May 14, 2019; July 12, 2020; August 18, 2020;
August 31, 2020, October 1, 2020

McKnight Brain Research Foundation
New Trustee Orientation Materials
Table of Contents

September 2020

Welcome to the McKnight Brain Research Foundation Board of Trustees – a Letter from the Chairman

1. Mrs. Evelyn F. McKnight's Story
2. Vision, Value Statement, and Mission of the McKnight Brain Research Foundation (MBRF)
3. Strategic Plan
4. Institute of Medicine Study on Cognitive Aging Recommendations
5. Abbreviated History of the MBRF
6. Duties and Responsibilities of Individual Trustees
 - a. Code of Ethics
 - b. Conflict of Interest Policy and Conflict of Interest Statement
 - c. Annual Trustee Responsibilities and Commitment Form
 - d. Annual Trustee Self-Assessment Form
 - e. Reimbursement Policy
7. Duties and Responsibilities of Officers and Executive Director
 - a. Chair
 - b. Vice Chair
 - c. Chair Emeritus
 - d. Corporate Trustee
 - e. Executive Director
 - 1) Annual Evaluation
8. Board of Trustees Reorganization Summary and MBRF Priority Areas
 - a. Committee Charters
 - b. Committee Members
 - c. Committee Advisory Members
 - d. Priority Areas
 - 1) Communications - Audience Building Plan
 - 2) Education Statement and Content Outline
 - 3) Mid-Career Research Award in Cognitive Aging and Memory Loss Prospectus
9. Communications Outreach Program
 - a. Communications Plan (2 year)
 - b. Communications Working Group Charter
 - c. Communications Working Group Membership
 - d. Senior Advisor, Communications
 - e. Key Messages
 - f. Organizational Brochure Draft
10. Gift Agreements with the McKnight Brain Institutes (MBIs)
 - a. Evelyn F. McKnight Brain Institute at the University of Alabama at Birmingham
 - 1) Gift agreements
 - 2) Endowed Chair

- b. Evelyn F. McKnight Brain Institute at the University of Arizona
 - 1) Gift agreements
 - 2) Endowed Chair
 - c. Evelyn F. and William L. McKnight Brain Institute of the University of Florida
 - 1) Gift agreements
 - 2) Endowed Chairs
 - d. Evelyn F McKnight Brain Institute at the University of Miami
 - 1) Gift agreements
 - 2) Endowed Chair
 - e. Leadership Council
 - f. Annual Report Template
11. Block Grants and Special Projects
- a. Travel Award Program
 - 1) Brain and Cognitive Health Working Group
 - 2) Cognitive Aging and Memory Interventional Core
 - 3) Cognitive Test Assessment Working Group
 - 4) Epigenetics Working Group
 - 5) Magnetic Resonance Imaging (MRI) Standardization Working Group
 - b. Inter-Institutional Bio-informatics Core
 - c. Inter-Institutional Neuroimaging
 - d. Inter-Institutional Cognitive Assessment Core
 - 1) Vulnerability of Older Adults to Financial Deception Schemes—A Novel Intervention Tool
 - 2) A pilot Intervention with Near Infrared Stimulation: Revitalizing Cognition in Older Adults.
 - 3) Transcutaneous Vagal Nerve Stimulation and Cognitive Training to Enhance Cognitive Performance in Healthy Older Adults
 - e. Research Partnership in Cognitive Aging
 - f. Cognitive Aging Summits
 - g. William G. Luttge Annual Lectureship in Neuroscience
 - h. Society for Neuroscience Poster Reception
 - i. Cognitive Aging and Memory Clinical Translational Research Scholarships
 - 1) RFA for 2021 Applications
12. Contact Information: Board of Trustees
13. MBRF Websites
- Public Website: <https://mcknightbrain.org>
- Website Management: LookThink
- Contact person: Valerie Patmintra
- Private Secure Website: <https://tmbrf.org/board-login/>
- Website Management: The Foundation Center
- Contact Person: Melanie Cianciotto
- Trustees ID: mcknight
- Password: X1234mcknight.
- (For security you may be required to enter the password twice.)

Finance Committee Activity Timeline
For the One-Year Period July 1, 2020, to June 30, 2021

Updated July 1, 2020

Duty (from Committee Charter)	Activity/Action	Outcome	Date	Comments
<i>"...shall coordinate the Board of Trustee's Financial Oversight Responsibilities (through monitoring of) ...financial management, assets, and risks ..."</i>	Review Investments and Investment Policy	Asset Allocation Review (Mike Hill)	July 6, 2020	completed
		Efficient Frontier Analysis (Shelly Simpson)	July 6, 2020	completed
		Monte Carlo Simulation		upon recommendation by SunTrust or request of the MBRF
		Investment Performance Review	July 22, 2020	
		Investment Performance & Asset Allocation Review (Mike Hill)	October 14, 2020	
		Investment Performance & Asset Allocation Review (Mike Hill)	February, 2021	
		Investment Performance & Asset Allocation Review (Mike Hill)	April, 2021	

Duty (from Committee Charter)	Activity/Action	Outcome	Date	Comments
<i>Financial Oversight... "...Ensure Compliance with Federal, State and other Financial Reporting Requirements..."</i>	Assess and Maintain IRS Required Distribution Amount	Minimum Distribution Calculation Report	July 22, 2020 October 13, 2020 February, 2021 April, 2021	completed
	Compensation Review	Examples Presented for Comparison	July 22, 2020	completed
	Tax Filing	Legal Counsel for the MBRF reviews the completed tax form before filing	The return is typically on two extensions. If it is filed on time it would be November, 2019	7.1.18 – 6.30.19 return was filed on 5.15.2020
	Insurance	MBRF carries D & O Insurance	Renewed annually	Premium paid by Corporate Trustee
<i>Financial Oversight " planning, monitoring and evaluation of ...funding for the McKnight Brain Institutes... and the MBRF Operations"</i>	Monitor Current and Outstanding Gifts and Grants	Gifts and Grants Report	July 22, 2020 October 13, 2020 February, 2021 April, 2021	completed
		Travel Award Program Report	July 22, 2020 October 13, 2020 February, 2021 April, 2021	completed
	Review MBRF Operating Expenses	Year to Date Operating Expenses Report	July 22, 2020 October 13, 2020 February, 2021 April, 2021	completed

Duty (from Committee Charter)	Activity/Action	Outcome	Date	Comments
<i>Financial Review...of reports and requests submitted to the MBRF by the MBIs and Other Partners</i>	Review Financial Reports Submitted with the MBI's Annual Reports		February, 2021	
	Review Financial Information included in Interim and Final Reports for Research Grants		Per terms of the award letter	
	Review Budgets Submitted with Requests for Funding		As submitted	
<i>"...ensure adequacy of MBRF internal controls and compliance with conflict of interest policy..."</i>	Review Signing Authority	MBRF policy is minimum of 2 individuals with signing authority	April, 2019	Dr. Mike Dockery was added to SunTrust Account
	Conflict of Interest	Conflict of Interest Policy signed by all new and re-elected Trustees and by all Advisory Members of MBRF Committees	ONGOING	COI policy will be added to the chart that tracks response to Trustee Self- Assessments

Communications Activity Timeline
(Updated to current status as of October 7, 2020)

Activity	Date/Status	Action	Responsible Party	Comments
Key Messages	✓ April 11, 2019 (COMPLETE)	Messages distribute at 11 th Inter-institutional Meeting Communications Program and Panel	A. Porter V. Patmintra	Key messages document to be used as the basis for communications materials, website content, social media postings, and media speaking points as they relate to the topics of cognitive aging, decline, and memory loss. Key messages include edits/suggestions from the Leadership Council as of Dec. 2018, and were endorsed by the Board of Trustees on Feb. 20, 2019.
Organizational Brochure	January 2020 - April 2020 COMPLETE	Draft content and designed the organizational brochure	V. Patmintra	Content secured from the MBIs and incorporated into a draft of the MBRF organizational brochure. Content was shared with the CWG members on the January 24 th conference call and edited to reflect MBI feedback. Worked with designers to layout and design the MBRF organizational brochure as a complement to the new MBRF website. Look and feel matches the overall website design and include content approved for the website and reviewed by the MBIs.
	June – October 2020	Revised brochure design and content based on feedback secured		Designed brochure was reviewed by MBRF Education and Communications Committees in June Meetings. The designed brochure was reviewed during the Board's July meeting. Revisions were made to reflect committee and the full Board's feedback and an updated version of the brochure was shared with the communications working group members during their September call. Additional revisions were made and a close to final

				Develop a strategic partnership and promotion plan to announce and drive PCPs to the new content
	Winter 2020 - Ongoing	Build out content to announce and promote the new Research strategic focus area	V. Patmintra	Develop content and create dedicated pages of website describing the new mid-career research accelerator awards program, application requirements and relevant dates. Create a dedicated area of the McKnight Brain homepage to announce the new award program and lead to new content pages. Develop web banners the MBIs and other partners can post to their websites linking to the award information and applications on the MBRF website.
	Summer 2020 - Ongoing	Build audience for the new website	V. Patmintra	Worked with web agency on search engine optimization and targeted online advertising campaigns to drive traffic to and build an audience for the new MBRF website. Audience Building plan was presented to the Communications Committee during the June 26 call and presented to the full Board during their July 22 call Working with Look Think to develop additional patient content based on most popular search terms and working to conduct user testing to optimize the site's navigation.
Social Media	March, 2019 - Ongoing (IN PROGRESS)	Launch MBRF Twitter account and dedicated LinkedIn page	V. Patmintra	Use Twitter and LinkedIn to share info from MBRF and the MBIs. V. Patmintra shared MBRF Twitter page with Trustees on April 10 and posts articles and events to the Twitter feed regularly. New logo in use on Twitter. Looking to launch MBRF Facebook page in the fall/winter tied to posting of organizational brochure and when there is enough content to drive audiences to on the new website.

Generate Visibility Opportunities	April 2020 Ongoing	Inter-Institutional Meeting	V. Patmintra	Post/Share press release announcing the Inter-Institutional Meeting on Twitter and new website. Develop meeting summary to post after the meeting with event highlights and photos. Meeting Cancelled – will look for other opportunities to begin generating media visibility later in the year. Media efforts could be tied to launching new research and education focus areas. 2021 McKnight Scholars: Online content and a press release announcing the new 2021 McKnight Scholars is being developed and will be posted to the MBRF website.
	April – May 2020 MEETING CANCELED	Inter-Institutional Meeting Outreach	V. Patmintra	Identify stories, scientists, research, news from Inter-Institutional Meeting to highlight on MBRF website, social media platforms or promote to partners and media contacts after the meeting.
Tracking and Quarterly Reports	Began in 2019 Ongoing	Conduct media tracking and provide quarterly updates.	V. Patmintra	Track media and social media metrics and reach throughout the year and provide quarterly updates to the Trustees. Tracking topics include: brain health, age-related memory loss, McKnight Brain Research Foundation, McKnight Brain Institutes.
Communications Working Group	Ongoing Last meeting held September 23 Meetings will continue in October and November to secure approval on the brochure and identify expert spokespeople	Monthly calls and activities with members of the Communications Working Group	A. Porter/V. Patmintra	Schedule and hold monthly calls with members of the Communications Working Group to engage in ongoing activities, including: - Identifying core competencies needed for each MBI to move forward with communications outreach - Reviewing, vetting and approving materials - Providing input on upcoming studies with relevant consumer/medical media angles - Expert spokespeople identification and training

Identify and Train Expert and Lifestyle Spokespeople	Fall 2020	Identify group of expert spokespeople	A. Porter V. Patmintra	Work with members of the Communications Working Group to identify a team of expert spokespeople to speak to media on behalf of MBRF and the MBIs.
	Fall 2020	Develop initial list of possible spokespeople	A. Porter V. Patmintra	Based on CWG input, develop a list of expert spokespeople available for media interviews and to comment on relevant new research and news articles. Suggested list of expert spokespeople/influencers to be shared with the Trustees by late 2020.
	On Hold	Develop list of lifestyle spokespeople to recruit	V. Patmintra	Decided to focus on MBI Leadership as expert spokespeople for the coming year. Incorporating lifestyle experts to speak on behalf of the Foundation will be evaluated down the road if the decision to engage in large-scale consumer media outreach is made.

MINUTES
MCKNIGHT BRAIN RESEARCH FOUNDATION
COMMUNICATIONS WORKING GROUP CONFERENCE CALL
September 23, 2020

The McKnight Brain Research Foundation's Communications Working Group conference call began at 1:00 p.m. Eastern on Wednesday, September 23, 2020.

The following working group members participated in the call:

J. Lee Dockery, MD, Chair Emeritus, MBRF Trustee
Susan Fox-Rosellini, MBA, University of Miami
Vicki Hixon, University of Alabama Birmingham
Richard Isaacson, MD, Chair, Communications Committee, MBRF Trustee
Valerie Patmintra, Senior Communications Advisor
Amy Porter, MBRF Executive Director
LuAnn Snyder, University of Arizona
Robert Wah, MD, MBRF Trustee

1. Roll Call and Welcome

Ms. Patmintra opened the call, took roll and welcomed those in attendance. Ms. Patmintra thanked the group for being on the call and continuing to be involved with the working group. She then noted that Dr. Dockery, Dr. Isaacson and Dr. Wah were all on the call as Foundation Trustees and invited them to provide a welcome.

Dr. Isaacson welcomed the group, thanked them for their continued participation and said he was looking forward to catching up on some of the projects the Foundation has been moving forward over the past several months. Dr. Dockery also welcomed the group to the call, noting it was nice to hear everyone's voices after the long break and that he too was looking forward to reviewing the brochure and other communications initiatives together during the call.

2. Updated Organizational Brochure

Dr. Isaacson began the discussion of the updated organizational brochure by thanking the group for their assistance in gathering and reviewing the content included in the current draft and noting that content-wise, the brochure is very close to completion. He asked the CWG members to please provide any additional content edits to Ms. Patmintra by Friday, October 3 and noted that the design of the brochure is also getting close to complete, but tweaks are still being made, especially to pages 2 and 3. Ms. Fox-Rosellini said she is really pleased with the brochure and that it reads well, isn't too content heavy and the numbers callouts on pages 2 and 3 play really well.

The group then discussed ways to make the numbers on page 3 stand out more, especially the \$180 million investment in research. Dr. Isaacson suggested the number and supporting content should take up the top one-third of the page to stand out from the other numbers and Ms. Fox-Rosellini suggested exploring options to make the \$180 million spatially different from the other numbers and potentially using different colors to emphasize the number. Dr. Dockery noted that the \$180 million investment is not purely MBRF money and that the description needs to closely match what is included in the Mid-Career Research Award white paper to ensure proper credit is given to the MBRF partners who contributed to the overall investment.

Dr. Isaacson then asked if there were any other suggestions on content or design for the overall brochure. Ms. Fox-Rosellini and Dr. Dockery suggested that the brain image on the brochure cover was reversed and not accurate. Ms.

Patmintra noted that the image was selected because it was the reverse of the logo, but that the designers had not reversed an image of a brain. Ms. Porter suggested that the image is of a brain from a different perspective than is usually shown in scientific photos/images. Dr. Dockery asked for the logo and tagline to be increased in size on the front cover to make the tagline easier to read. Ms. Fox-Rosellini asked that the University of Miami faculty be increased to 100+ researchers and faculty to reflect recent growth.

Ms. Patmintra thanked the group for their feedback and said she would work with the brochure designers to make the content and design changes requested in time for the MBRF Board to review the brochure during their October 14 meeting.

3. Update on Plans to Build an Audience for the McKnight Brain Website

Ms. Patmintra referenced the audience building plan that was included in the meeting materials and updated the group on the search engine optimization research she has been working on with the web developers to uncover key words people use when searching for information on age-related cognitive decline and memory loss. She noted that the identified key words and search terms will help with the next phase of patient information that is being developed for the website.

Ms. Patmintra then asked Dr. Isaacson if he would like to give an overview of the content being developed to create an area of the site with resources and information to raise awareness for age-related cognitive decline and memory loss among primary care physicians (PCPs). Dr. Isaacson noted that reaching PCPs is a long term initiative and that the Foundation would also be working to identify partners to help reach them as well as looking into the best ways to engage with them. He said the initiative would be challenging, but that by starting with developing the web content and resources, the Foundation is starting to scratch the surface on what would be a long-term project. Dr. Isaacson agreed that the American Academy of Neurology has also expressed that reaching PCPs is a challenge.

Dr. Isaacson said he believes online education with innovative online learning practices, like short videos, podcasts and interviews is a good place to start. Ms. Fox-Rosellini suggested that each MBI could send two interviews with their young researchers each quarter to be posted to the website. She noted that each MBI has interesting researchers, but they struggle with how to best build a presence and draw attention to their work. Ms. Patmintra said that is a great idea and could help with content for the overall website as well. Dr. Isaacson said it would be very important to be strategic as far as what types of videos are featured, noting that the content needs to be clinically relevant and that the researchers featured need to be media trained. Ms. Fox-Rosellini suggested using the search engine optimization findings as far as what people are searching for to help drive the topics to feature and aim to have each MBI record one to two interviews each month. The group agreed to discuss the video content and timeline further during the next meeting.

4. Plans for the Next Inter-Institutional Meeting

Ms. Porter asked Ms. Fox-Rosellini to give an update on what's being discussed as plans for the next Inter-Institutional Meeting scheduled to take place in the spring of 2021. Ms. Fox-Rosellini let the group know that the Leadership Council is struggling with the idea of having an in-person annual meeting without knowing if it will be safe for people to travel at the end of April. She said the Leadership Council is leaning toward planning it as a virtual meeting. Ms. Snyder and Ms. Hixon both said that their Universities hadn't lifted their travel restrictions and they weren't sure when they would. Dr. Dockery asked if the group has considered postponing the meeting to the fall. Ms. Fox-Rosellini said the group had considered postponing the meeting, but their concern is when the meeting would be held going forward and they are leaning toward having two half-day virtual sessions in the spring. Dr. Dockery suggested the meeting could move to the fall going forward, but Dr. Wah noted that could be challenging for the universities to plan for a meeting so soon after the academic year begins. Ms. Fox-Rosellini agreed to share the CWG's feedback with the Leadership Council and to keep the group posted on plans for the meeting.

5. Next Steps and Adjournment

Ms. Patmintra thanked the group again for their participation and said she would be reaching out soon to schedule the October and November meetings. The group agreed to hold the next meetings via Zoom to make them more interactive and to share materials/information more easily.

With no additional items to discuss, Dr. Dockery thanked the group for their continued participation, the CWG members exchanged best wishes for everyone to stay healthy and safe and the call was adjourned at 2:05pm.



The McKnight Brain Research Foundation

Championing research to better understand and alleviate the effects of cognitive decline and age-related memory loss since 1999



McKNIGHT BRAIN
RESEARCH FOUNDATION

Preserving memory, enhancing life



The McKnight Brain Research Foundation is the only private foundation devoted exclusively to solving the mysteries of the aging brain and helping people achieve a lifetime of cognitive health.

Our Strategic Pillars



Lead

First to establish a dedicated area of scientific research specifically focused on age-related cognitive decline and memory loss



Inspire

Sharing information and research findings on how to age successfully to inspire the public and help people maintain cognition and brain health for life



Partner

Forming partnerships and collaborations among research scientists, institutions and organizations with a shared commitment to age-related cognitive decline and memory loss



Recognize & Reward

Offering scholarships and grants to attract bright young researchers and support current researchers in advancing the understanding and alleviation of age-related memory loss

The McKnight Impact

\$180M

Funding more than \$180 million in research specifically targeting cognitive aging, age-related cognitive decline and memory loss through direct contributions and strategic initiatives in partnership with the four **McKnight Brain Institutes** and the **National Institute on Aging (NIA)** through the **Foundation for the National Institutes of Health (FNIH)**

240+

Researchers and five endowed Chairs supported across the four McKnight Brain Institutes

\$15M

Awarded to FNIH - resulting in nearly 40 new grants over two cycles

5 years

Partnering with the **American Academy of Neurology** through the **American Brain Foundation** to fund two cognitive aging research scholarships per year for five years

4 institutes

Established **McKnight Brain Institutes** at the University of Alabama at Birmingham, the University of Arizona, the University of Miami and the University of Florida

3 summits

Hosted three successful Cognitive Aging Summits in partnership with the **NIA**, resulting in the Reserve and Resilience Program

1 report

Developed the **Cognitive Aging Report** in partnership with the **National Academy of Medicine** to promote cognitive health



The McKnight Brain Research Foundation and four McKnight Brain Institutes foster cross-discipline, productive collaboration among leading researchers to better understand and alleviate the effects of age-related cognitive decline and memory loss.

The scientific research conducted at the McKnight Brain Institutes examines the fundamental mechanisms that underlie the neurobiology of learning and memory and the influences contributing to successful aging. Findings and discoveries are applied clinically to help people maintain their cognitive health and manage the effects of age-related cognitive decline and memory loss.

In the photo: McKnight Brain Institutes' Leadership Council (L-R) Lee Ryan, Ph.D. (UA); Thomas Foster, Ph.D. (UF); Ron Lazar, M.D. (UAB); Todd Golde, M.D.; Ph.D. (UF); Steven DeKosky, M.D.(UF); Carol Barnes, Ph.D. (UA); Ralph Sacco, M.D. (UM); Ronald Cohen, Ph.D. (UF); and Tatjana Rundek M.D., Ph.D. (UM). Not pictured: David G. Standaert, M.D., Ph.D. (UAB), Erik D. Roberson, M.D., Ph.D. (UAB) and Jada Lewis, Ph.D. (UF).

Evelyn F. McKnight Endowed Chairs

Recognizing Evelyn McKnight's generous support for ongoing brain research, the McKnight Brain Research Foundation established Endowed Chairs at each of the four McKnight Brain Institutes in her honor.

- Evelyn F. McKnight Endowed Chair in the Department of Neurology at the University of Alabama at Birmingham
- Evelyn F. McKnight Endowed Chairs for Learning and Memory in Aging at the University of Arizona
- Evelyn F. McKnight Chair for Research on Cognitive Aging and Memory and Evelyn F. McKnight Chair for Clinical Translational Research in Cognitive Aging at the University of Florida
- Evelyn F. McKnight Endowed Chair for Learning and Memory in Aging at the University of Miami



The University of Alabama at Birmingham

Established in 2004, the Evelyn F. McKnight Brain Institute at the University of Alabama at Birmingham (UAB) brings together scholars and researchers working in the forefront of basic, translational and clinical neuroscience, with the overarching goals of discovering new biological principles in pre-clinical models and bringing them to bear on human cognitive concerns.

Utilizing state of the art laboratory facilities, brain imaging modalities, and clinical settings, the UAB MBI faculty and students explore the mechanisms that underlie human and animal cognitive neuroscience in an effort to develop new interventions for creating cognitive resilience as people age.

Evelyn F. McKnight Brain Institute Leadership

Director, Ronald M. Lazar, Ph.D., FAHA, FAAN

Director and Evelyn F. McKnight Endowed Chair, Dr. Ronald M. Lazar, is a graduate of New York University with a prize in Psychology and a PhD graduate in Psychology from Northeastern University. Since beginning his tenure with UAB, Dr. Lazar has worked to fulfill his vision of establishing new relationships with patient-oriented departments and clinical faculty to build upon the already-existing strengths in basic and translational neuroscience at UAB.

Associate Director, Erik Roberson, M.D., Ph.D.

Associate Director, Dr. Erik Roberson, is a neurologist and neuroscientist whose research is focused on age-related cognitive impairment. He received his A.B. with highest honors from Princeton University and earned his M.D. and Ph.D in neuroscience at Baylor College of Medicine where he studied molecular mechanisms of learning and memory.

[Learn more about the Leadership Team on the UAB MBI website](#) →

Specialized Research on Cognitive Aging

Research at the UAB McKnight Brain Institute involves an interdisciplinary collaboration across departments and programs at the University of Alabama Birmingham, targeted at mitigating age-related cognitive decline.

McKnight Brain Aging Registry (MBAR)

With tremendous investment in organizing and harmonizing data from across the four McKnight Brain Institutes, the McKnight Brain Aging Registry now includes a single data set that has undergone quality control and is sufficiently similar to be compared across sites. Recruitment and data acquisition for this collaborative project remains in progress.



Clinical and Population-based Research

Clinical and population-based research at the UAB MBI focuses on healthy aging adults, as well as adults with age-related memory loss and cognitive decline, Alzheimer's disease and related dementias, stroke and other cerebrovascular conditions, among others. Areas of research include: cognitive resilience and recovery in aging; age-related cognitive function; quality of life for the aging through research, education and clinical care; functional activity, decisional capacity, and cognition in persons with cognitive impairment; and more.

Center for Translational Research on Aging and Mobility

The Center for Translational Research on Aging and Mobility is a multisite study measuring cognitive testing and brain MRIs.

55+

faculty members spanning
across more than 15
academic departments

200+

peer reviewed
publications in high
impact journals annually

[Learn more about the UAB MBI](#) →

The University of Arizona

Founded in 2006, the mission of the Evelyn F. McKnight Brain Institute at the University of Arizona is to discover the mysteries of the normally aging brain to achieve a lifetime of cognitive health.

Scientists used to view the aging brain as an inevitable story of decline. It's now known that the brain continually adapts throughout life— a more hopeful outlook on the world's most condensed mystery.

Because of the inventive research of Dr. Carol Barnes and other affiliated faculty, along with the continual development of new technologies, the Evelyn F. McKnight Brain Institute is poised to contribute to southern Arizona as a center for high-level neuroscience, while also improving the understanding of brain and cognitive health for the entire world.

Evelyn F. McKnight Brain Institute Leadership

Director, Carol A. Barnes, Ph.D.

Director, Dr. Carol A. Barnes is a Regents Professor in the Departments of Psychology, Neurology and Neuroscience, the Evelyn F. McKnight Endowed Chair for Learning and Memory in Aging, Director of the Evelyn F. McKnight Brain Institute and Director of the Division of Neural Systems, Memory & Aging at the University of Arizona, Tucson, Arizona. Dr. Barnes is past-president of the Society for Neuroscience, an elected Fellow of the American Association for the Advancement of Science, and an Elected Foreign Member of the Royal Norwegian Society of Sciences and Letters, and an elected fellow of the National Academy of Sciences.

Associate Director, Lee Ryan, Ph.D

Dr. Lee Ryan is a Professor in the Departments of Psychology and Neuroscience, Associate Director of the Evelyn F McKnight Brain Institute, Director of the Cognition and Neuroimaging Laboratory, Head of the Department of Psychology at the University of Arizona, Tucson, Arizona. Her work focuses on investigating the aging brain and how memory changes with age to identify ways to maintain a healthy brain through healthy lifestyle choices.

[Learn more about the Leadership Team on the UA MBI website](#) →

Research on the Neurobiology of Cognitive Aging

The investigators at the Evelyn F. McKnight Brain Institute at the University of Arizona gain insights into brain function and cognition during aging using multiple animal models that include flies, rodents and nonhuman primates, as well as human participants. Institute investigators use cutting-edge and specialized behavioral assessments specifically created to be sensitive to those cognitive domains that change during normative aging, including tests for humans, as well as tests for the animal models of aging investigated.



Methods applied to understanding the mechanisms of brain aging that underly cognitive change with aging include state-of-the-art ensemble electrophysiological recording in behaving animals that can monitor changes in brain networks and cognitive decline in aged rodents and nonhuman primates and can be combined with live imaging methodologies. Other large-scale molecular imaging technologies are also used (the catFISH method) that allow the examination of individual cells that participate in circuits critical for memory. Genetic, proteomic and epigenetic methods are also used by the EMBI researchers at the University of Arizona, and, in collaboration with our colleagues at the other McKnight Brain Institutes, to understand changes in molecular pathways that control cell function and are critical for brain plasticity mechanisms. The Evelyn F. McKnight Brain Institute in Tucson also shares and develops sophisticated methods for collection of functional and structural MRI data in humans, and is a leader in developing machine learning and other advanced approaches for analyses of these data.

40⁺

affiliate faculty spanning 21
departments and 5 colleges

200⁺

articles published annually
on topics related to aging

\$29M

in research funding

[Learn more about the UA MBI](#) →

The University of Florida

With the start of the new millennium, the University of Florida Brain Institute, a world class \$60 million building, was renamed the Evelyn F. and William L. McKnight Brain Institute of the University of Florida (UF MBI) to celebrate and commemorate a **\$15 million** gift from the McKnight Brain Research Foundation.

Today, the UF MBI is one of the nation's most diverse neuroscience research centers. Its mission extends far beyond its physical walls and serves as a "transparent umbrella" connecting and supporting faculty members from other departments, centers and programs with concentrations in neuroscience research throughout UF's 16 colleges. Across campus, researchers collaborate with cognitive aging core faculty — supported by the gift from the McKnight Brain Research Foundation — on multidisciplinary teams to better understand how the brain works and how various diseases alter brain function.

Ultimately these researchers and physician-scientists hope to broaden the understanding of many neurological and psychiatric disorders and change them from untreatable to treatable, incurable to curable and inevitable to preventable.

Evelyn F. & William L. McKnight Brain Research Foundation Leadership

Director, Todd E. Golde, M.D., Ph.D.

Director, Todd E. Golde, M.D., Ph.D., oversees, champions and facilitates neuroscience and neuromedicine research programs across the UF campus. A professor of neuroscience, Golde joined the UF faculty in 2009 and became founding director of the university's Center for Translational Research in Neurodegenerative Disease.

Deputy Director, Steven T. DeKosky, M.D.

Deputy Director, Steven T. DeKosky, M.D., is also the Aerts-Cosper Professor of Alzheimer's Research at the UF College of Medicine, co-deputy director of the UF MBI and associate director of the 1Florida ADRC. DeKosky earned the Alzheimer Association's Lifetime Achievement Henry Wisniewski Award in 2020.

Deputy Director, Jada Lewis, Ph.D.

Deputy Director, Jada Lewis, Ph.D., is a professor of neuroscience and investigator at UF's Center for Translational Research in Neurodegenerative Disease. She has co-led the UF MBI's Education and Outreach Committee with Jennifer Bizon, Ph.D., for the last two-plus years.

Evelyn F. McKnight Endowed Chairs for Research

Chair for Research on Cognitive Aging and Memory, Tom Foster, Ph.D.

Chair for Clinical Translational Research in Cognitive Aging, Ron Cohen, Ph.D., ABPP, ABCN



Specialized Research on Cognitive Aging

Center for Cognitive Aging and Memory Clinical Translational Research (CAM Center)

Co-directed by Ron Cohen, Ph.D. ABPP, and Jennifer Bizon, Ph.D., with Sara Burke, Ph.D., and Adam Woods, Ph.D., serving as associate directors, the CAM Center is a multidisciplinary research center focused on brain aging and cognition with researchers specializing in physiology, neurobiology of aging, neuroplasticity, pharmacology, computational, cellular and behavioral neuroscience and clinical interests. Research approaches underway at the CAM Center include analysis of single cells and molecules; interrogation of neural circuits; and design and testing of interventions to improve cognitive health.

With strengths in both preclinical discovery-based research and clinical science, CAM Center researchers are dedicated to translating leading edge brain aging discoveries into interventions that will preserve cognitive function and improve the quality of lives for older adults. The CAM Center is a fertile training ground for those interested in preclinical or translational research careers focused on preventing or reversing age-related cognitive decline.

200⁺

faculty members from
more than 50 academic
departments

3rd

ranking in neuroscience
for NIH funding among
public universities

50⁺

labs totaling 260,000
square feet of
research space

[Learn more about the UF MBI](#) →

The University of Miami

Research at the Evelyn F. McKnight Brain Institute at the University of Miami is dedicated to advancing medical knowledge about memory loss and related neurological diseases.

UM MBI researchers are studying ways to improve the lives of people with Alzheimer's disease and other types of dementia, with a goal of developing new strategies to stop the disease process, minimize the impact on individuals, restore lost functions and eventually find the cause and cure for these devastating illnesses.

Evelyn F. McKnight Brain Institute Leadership

Executive Director, Ralph L. Sacco, M.D., M.S.

Executive Director, Dr. Ralph L. Sacco, is also the Chairman of Neurology, Olemberg Family Chair in Neurological Disorders, Miller Professor of Neurology, Public Health Sciences, Human Genetics, and Neurosurgery, and Chief of the Neurology Service at Jackson Memorial Hospital.

Dr. Sacco, an elected member of the National Academy of Medicine, is the founding Principal Investigator of the 26-year NINDS-funded Northern Manhattan Study, and co-investigator of multiple other NIH grants.

Scientific Director, Tatjana Rundek, M.D., Ph.D.

Scientific Director and Evelyn F. McKnight Chair for Learning and Memory in Aging, Dr. Tatjana Rundek is a Professor of Neurology, Epidemiology and Public Health with tenure, Vice Chair of Clinical Research, and Director of the Clinical Translational Research Division in the Department of Neurology of the University of Miami, Miller School of Medicine. She holds a secondary faculty appointment at the Department of Neurology at Columbia University in New York.

[Learn more about the Leadership Team on the UM website](#) →

Cognitive Aging Research

The McKnight MRI Core and Neuropsychology Core Projects

The McKnight MRI Core and Neuropsychology Core Projects are collaborative core projects with other McKnight Brain Institutes involving ongoing research and collection of standardized brain MRIs and neuropsychological assessment data in patients with memory and cognitive loss.

Evelyn F. McKnight Brain Institute Cognitive Disorders Clinical and Biorepository Registry Collection

This comprehensive longitudinal database registry includes patients with age-related memory disorders and dementias. Participants are enrolled from the University of Miami Memory Disorders Clinic, a collaborative effort between Neurology and Psychiatry & Behavioral Sciences. The databank collects information on patient demographics, clinical assessments, medical history, genetic risk factors, imaging data and treatment modalities.



Identification of Biomarkers for Early Diagnosis of Cognitive Impairment in the Elderly

This ongoing study aims to identify new biomarkers that can be detected in participants who are at risk of developing dementia and/or who have cognitive impairment.

Evaluating Frailty as a Preventive Measure in Maintaining Quality of Life in Aging

This frailty research evaluates a clinical and community cohort of aging adults to determine their propensity towards being non-frail, pre-frail and frail, with the goal of early detection and prevention of frailty symptoms and clinical characteristics.

Analysis of Cognition in Patients with Memory Complaints

By analyzing patients with memory complaints, this research project examines questions related to the cognitive, psychological and biomedical variables associated with dementia and its subtypes, including demographics and risk factors that help identify predictive variables to improve the understanding of dementia and other memory disorders and their comorbidities.

1st

medical school in Florida, the Leonard M. Miller School of Medicine, founded in 1952

1962

Founding of the Department of Neurology, one of the oldest departments within the Miller School

100⁺

clinical and research faculty, with one of the largest neurology training programs

[Learn more about the UM MBI](#) →



Chair

Michael L. Dockery, MD
Charlotte, NC



Vice Chair

Madhav Thambisetty, MD, PhD
Ellicott City, MD



Chair Emeritus

J. Lee Dockery, MD
Gainesville, FL



Corporate Trustee

Melanie A. Cianciotto
Orlando, FL



Trustee

Patricia A. Boyle, PhD
La Grange, IL



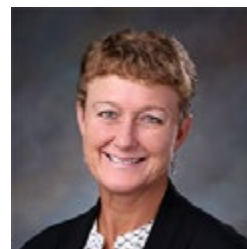
Trustee

Allison Brashear, MD, MBA
Sacramento, CA



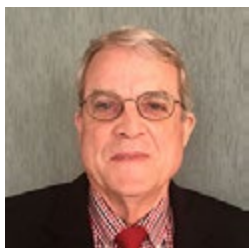
Trustee

Richard S. Isaacson, MD
New York, NY



Trustee

Susan L. Pekarske, MD
Tucson, AZ



Trustee

Gene G. Ryerson, MD
Gainesville, FL



Trustee

Robert M. Wah, MD
McLean, VA



Executive Director

Amy Porter
Alexandria, VA



Evelyn F. McKnight, a nurse, established the Evelyn F. McKnight Brain Research Foundation® on May 26, 1999. Mrs. McKnight and her late husband, William L. McKnight, were interested in the effects of aging on memory. This interest inspired Mrs. McKnight to establish the Foundation as a legacy of support for brain research with the specific goal of better understanding and alleviating age-related cognitive decline and memory loss.



McKNIGHT BRAIN
RESEARCH FOUNDATION

Preserving memory, enhancing life

www.mcknightbrain.org



McKnightBrain.org Audience Building Plan

I. Attracting General Site Visitors

- **Blogging/Guest Blogging**

- Adding a blog feature to the website with monthly blogs posted by MBRF Board members, MBI scientists and experts from partner organizations will help boost search results and keep the site fresh with new content
- Blogs can be tied to new research, current events or commenting on outside science and research to keep ideas fresh each month
- Guest blogging on partner organization and medical magazine sites can help attract new audiences and drive traffic back to McKnightBrain.org

- **Key Words and Search Engine Optimization**

- **Build relevancy:** Analyze common words people search for in the field – from general terms like brain health to specific terms and phrases like age-related memory loss and cognitive decline and make sure the site is optimized to use these terms consistently. When site content matches what people search for, it boosts relevancy and increases presence across search engines.
- **Become an Authority:** The more other sites link to McKnightBrain.org will also help build a presence on Google and other search engines. Look for opportunities where partner organizations can link back to McKnightBrain.org as the authority on age-related memory loss and cognitive decline. Make sure McKnightBrain.org is featured on and linked from all of the MBI websites, reach out to FNIH, NIH, NIA and other partner groups letting them know about the new site and asking for links to our content as appropriate.

- **Build a Social Presence**

- Leverage Facebook and Twitter to share curated content and drive traffic consistently back to McKnightBrain.org
- Create a monthly content calendar of posts to share site content, tips and advice, as well as news and information from the MBIs and other partner organizations
- Link posts back to the website

- **Paid Digital Advertising**

- **Run a paid Google search ad campaign:** Identify key words and set a budget to reach a daily maximum spend based on clicks or set a max spend for the life of the campaign. With Google, you only pay for clicks through to the website and ads appear when people search for the key words we select.
- **Facebook ads:** Using a single image or short video clip, you can create Facebook ads to help build an audience for the website as well as build followers on Facebook. With highly customizable demographics, you can target people with specific interests or by age, sex, etc. to increase social and website engagement.

- **Display advertising:** Create visual banner ads to appear on other sites based on individual's interests.
- **Email Marketing:** Purchase targeted email lists and send newsletters, seasonal emails, and/or emails to announce events, awards, scholarship opportunities with links driving back to the website.

II. Leveraging New Awards Program and Primary Care Physician Content to Attract Targeted Audiences

1. Announcing and Driving Traffic to the New Mid-Career Research Awards Program

- **Leverage Social Networks**
 - Draft scheduled social media posts announcing award program, highlighting key dates, profiling awardees and encouraging applications
 - Launch a Facebook ad campaign targeting midcareer researchers – campaign budget can be set to reach a set number of people per day or for the lifetime of the campaign (for example, one month leading up to the application deadline)
- **Activate Partner Organizations**
 - Share social media posts with MBIs and other partners, encouraging them to post and share with their networks
 - Develop web banners MBIs and other partners can post to their websites linking to the award information on the MBRF website
 - Purchase banner/e-Table of Contents ads in partner publications and relevant journals targeting mid career researchers

2. Announcing and Promoting the New PCP Resources

- **Leverage Social Networks**
 - Draft scheduled social media posts highlighting the importance of talking with older adults about cognitive health and driving back to specific resources for PCPs
 - Launch a Facebook ad campaign targeting primary care physicians and driving the to the PCP area of the site. Video clips of the cognitive assessment tool could be effective in driving traffic and attracting new site audiences
- **Activate Partner Networks**
 - Partner with the American Academy of Family Physicians to explore opportunities to post sponsored content on their site driving back to the new resources, guest blog on their website, advertise in their print and digital publications and more
 - Develop social media posts to share with MBIs and other partners, encouraging them to post and share with their networks
 - Develop web banners MBIs and other partners can post to their websites linking to the PCP area of the MBRF website



McKnight Brain Research Foundation

SEO Presentation

SEO (Search Engine Optimization)

Google cares about:

1. **Relevancy**: the connection between the search query and the content on the page. This is *on-page SEO*.
2. **Authority**: a website's popularity on the internet. This is *off-page SEO*.

[Google's SEO Starter Guide](#)

Make sure your content is:

- Relevant
- Easy to read
- Credible
- Honest
- Well-built
- Accurate
- Optimized for mobile

This is “what a site says to a search engine”

How to Generate On-Page SEO

Every time you create new content, you want to create the content **with the specific keywords you're targeting**. There should be 1-2 per webpage.

Keywords should be present in:

- Titles
- Descriptions (or Metadescrptions)
- Headings & Body Content (in a natural way)
- Image Titles & Alt Text
- URLs

Not all keywords are created equal. You want to consider:

1. Search volume - are a lot of people searching for this term?
2. Ease of ranking - how competitive is it to rank highly for this term?

For example, it may be incredibly difficult to rank for “bread” but it’s easier to rank for “handmade artisanal sourdough bread”



This is “what other sites say about your site”

How to Generate Off-Page SEO

Every time another site links to your site, you create a **backlink**. Backlinks from sites that are more popular and “reputable” than yours boosts your ranking on search engines. The more “quality” backlinks your site has, the more “authority” it gains.

Some ways to generate off-page SEO:

- Submitting to website directories
- Producing great content (so people naturally want to link to it)
- Guest blogging << *this is the most effective*
- Social media
- Press releases/news outlets





Your Keywords

COGNITIVE AGING

Use Keywords in:

- URLs
- Title tags
- Body copy
- Image File Names
- Metadescrptions
- PPC Ads



Related Keywords

"normal cognitive aging"

"normal cognitive aging harada"

"normal cognitive aging vs dementia"

"list of cognitive changes in elderly"

"changes in cognitive function in human aging"

"why is cognitive aging complex"

"the impact of age on cognition"

"age related cognitive decline definition"

COGNITIVE AGING

Use Search Queries to come up with creative content:

- Blog Posts
- Ebooks
- Whitepapers
- Reports
- Infographics



People also search for

"cognitive decline age graph"

"cognitive aspects of aging ppt"

"cognitive changes examples"

"age-related cognitive decline vs dementia"

"does speed decrease equal decreased knowledge"

"how to improve cognitive function in elderly"

"older adults psychosocial development"

"do people lose intelligence as they age"

"aging brain"

"normal cognitive aging vs dementia"

"cognitive aging conference"

"cognitive changes at 40"

"cognitive age vs chronological age"

"normal age-related neurological changes"

"fluid intelligence"

"dementia"

"cognitive meaning"

"apa and aging"

"memory and aging apa"

"elderly apa"

"improving memory in older adults"

"abnormal cognitive aging"

"aging brain symptoms"

"how much does our brain shrink by age 70"

"infection and cognitive impairment"

COGNITIVE AGING

Use Search Queries to come up with creative content:

- Blog Posts
- Ebooks
- Whitepapers
- Reports
- Infographics

People also search for (cont'd)

"severe cognitive decline"

"cognitive age level"

"normal biological aging"

"cognitive aspects of aging pdf"

"perceptual age"

"cognitive age test"

"cognitive aging theory"

"cognitive theory"

"senescence"



AGE-RELATED COGNITIVE DECLINE

Use Keywords in:

- URLs
- Title tags
- Body copy
- Image File Names
- Metadescrptions
- PPC Ads



Related Keywords

"age related cognitive decline vs dementia"

"age related cognitive decline symptoms"

"age related cognitive decline icd 10"

"age related cognitive decline definition"

"when does age related cognitive decline begin"

"age related cognitive decline treatment"

"cognitive decline age graph"

"mild cognitive impairment"

AGE-RELATED COGNITIVE DECLINE

Use Search Queries to come up with creative content:

- Blog Posts
- Ebooks
- Whitepapers
- Reports
- Infographics



People also search for

"cognitive decline age graph"

"older adults psychosocial development"

"do people lose intelligence as they age"

"age-related cognitive decline icd-10"

"cognitive aspects of aging ppt"

"age-related cognitive decline vs dementia"

"age-related cognitive decline in dogs"

"how to prevent cognitive decline"

"mental acuity and aging"

"does speed decrease equal decreased knowledge"

"age-related cognitive decline treatment"

"impact of age on cognition"

"age related cognitive decline may"

"age related cognitive decline may"

"abnormal cognitive aging"

"mild cognitive impairment emory"

"memory assessment clinics near me"

"emory alzheimer's trial"

"emotional changes in elderly"

"psychosocial development of older adults"

"brain deterioration age"

"how to improve cognitive function in elderly"

"normal aging definition"

"normal aging vs dementia"

"premature aging of the brain"

"normal aging changes quizlet"

AGE-RELATED COGNITIVE DECLINE

Use Search Queries to come up with creative content:

- Blog Posts
- Ebooks
- Whitepapers
- Reports
- Infographics



People also search for (cont'd)

"pathological changes seen with brain diseases"

"how does alzheimer's affect episodic memory"

"cognitive impairment test"

"cognitive impairment in children"

"cognitive impairment examples"

"is mild cognitive impairment reversible"

"cognitive impairment synonym"

"how to help someone with cognitive impairment"

"age-associated cognitive decline"

"the impact of age on cognition"

"the most common cause of dementia is _____."

"cognitive decline in late adulthood quizlet"

AGE-RELATED MEMORY LOSS

Use Keywords in:

- URLs
- Title tags
- Body copy
- Image File Names
- Metadescrptions
- PPC Ads

Related Keywords

"short term memory loss in elderly"

"age associated memory impairment"

"memory loss test"

"how to prevent memory loss in old age"

"memory loss treatment"

"short term memory loss test"

"what causes memory loss and forgetfulness"

"dementia or normal aging quiz"



AGE-RELATED MEMORY LOSS

Use Search Queries to come up with creative content:

- Blog Posts
- Ebooks
- Whitepapers
- Reports
- Infographics



People also search for

"memory loss supplements"

"short term memory loss test"

"sudden loss of memory and disorientation"

"dementia memory loss"

"depression and memory loss"

"what causes memory loss and forgetfulness"

"forgetting"

"early-onset alzheimer's disease"

"loss of reasoning ability"

"husband has memory problems"

"how to talk about memory loss"

"delayed recall memory activities"

"cleveland clinic cognitive impairment"

"does episodic memory decline with age"

"cognitive disorder examples"

"parkinson's disease does not cause dementia"

"mild cognitive impairment vs normal aging"

"alzheimer's vs normal brain"

"cdc normal aging"

"truth about aging"

"senility vs dementia"

"difficulty remembering new information"

"normal cognitive decline"

"early signs of dementia checklist"

"alzheimer's treatment"

AGE-RELATED MEMORY LOSS

Use Search Queries to come up with creative content:

- Blog Posts
- Ebooks
- Whitepapers
- Reports
- Infographics



People also search for (CONT'D)

"alzheimer's symptoms"

"alzheimer's disease stages"

"undiagnosed alzheimer's disease"

"how to prevent memory loss in old age"

"old age memory loss disease name"

"best brain supplement for seniors"

"memory strategies for older adults"

"ayurvedic medicine for memory loss in old age"

"symptoms of dementia cdc"

"the first signs of alzheimer's disease"

"normal aging definition"

"healthy brain initiative california"

"which is not a normal aging change? quizlet"

"which memory task involves divided attention?"

BRAIN HEALTH

Use Keywords in:

- URLs
- Title tags
- Body copy
- Image File Names
- Metadescrptions
- PPC Ads

Related Keywords

"importance of brain health"

"how to improve brain health"

"brain health vitamins"

"brain health supplements"

"brain health nutrition"

"brain health foods"

"brain health facts"

"brain health exercises"



BRAIN HEALTH

Use Search Queries to come up with creative content:

- Blog Posts
- Ebooks
- Whitepapers
- Reports
- Infographics



People also search for

"10 ways to love your brain"

"brain health book"

"brain health exercises"

"alzheimer's ways to love your brain"

"brain health vitamins"

"social life and alzheimer's"

"brain health nutrition"

"brain health pdf"

"brain health and mental health"

"brain health quiz"

"brain health company"

"brain health iowa"

"nih brain health"

"how to improve cognitive health"

"brain health flyer"

"how to keep brain healthy and active"

"foods that improve brain function"

"healthy brain exercises"

"tips for healthy mind"

"games to keep your mind sharp"

"increase brain power in 7 minutes"

"brain health food"

"brain health supplements"

"how to keep brain healthy and sharp"

"mediterranean diet benefits mayo clinic"

"things to do for your mind"

"signs of healthy brain"

"how to keep blood vessels in brain"

BRAIN HEALTH

Use Search Queries to come up with creative content:

- Blog Posts
- Ebooks
- Whitepapers
- Reports
- Infographics



People also search for (cont'd)

"aarp brain health program"

"gcbh brain health"

"american brain council"

"brain sharp game"

"aarp memory test"

"freebrain games"



McKNIGHT BRAIN RESEARCH FOUNDATION

Preserving memory, enhancing life

-DRAFT -

The McKnight Brain Research Foundation Elects Allison Brashear, MD, MBA to its Board of Trustees

October XX, 2020 – The McKnight Brain Research Foundation (MBRF) recently elected Allison Brashear, MD, MBA, Dean of the University of California Davis School of Medicine, to its Board of Trustees. As an internationally known researcher in the field of neuroscience, Dr. Brashear’s background and experience will help move the Foundation closer to its goal of better understanding and alleviating age-related cognitive decline and memory loss.

As Dean of the UC Davis School of Medicine, Dr. Brashear oversees one of the nation’s top research, academic and medical training institutions, with 761 full-time faculty and approximately 450 students. Ranked 18th internationally for Dr. Brashear’s field of neurosciences, the school is also a national leader in research and one of America’s top medical schools in academics and training.

“We are thrilled to welcome Dr. Brashear as the newest member of our Board of Trustees,” said Michael L. Dockery, MD, Chair, McKnight Brain Research Foundation. “Her research and innovation in the field of neurology, together with her passion for patient-centered care, make her a perfect addition to the MBRF Board of Trustees as we work uncover new research helping to better understand how to prevent cognitive decline and memory loss associated with the aging process.”

With cognitive changes due to the normal aging process affecting nearly 87 percent of people age 65 and older, the McKnight Brain Research Foundation is the nation’s only private foundation dedicated exclusively to solving the mysteries of the aging brain and helping people achieve a lifetime of cognitive health. The Foundation supports research specifically targeting cognitive aging, age-related cognitive decline and memory loss and works to educate the public on the steps that can be taken to maintain cognitive and brain health.

Before joining UC Davis, Dr. Brashear was professor and chair of the Department of Neurology at Wake Forest School of Medicine, where she led a team whose research and clinical innovation led to new models of neurological care. At Wake Forest, she was also an active clinician and held the Walter C. Teagle Endowed Chair of Neurology.

Dr. Brashear also holds an M.B.A. focused on health-sector management and has expertise in health policy, hospital-clinical integration, academics and research. She is a career-long champion of inclusion and patient-centered care and has worked actively to help advance women in leadership across academic medicine.

Dr. Brashear joins the MBRF’s current Board of Trustees, including Dr. J. Lee Dockery, Gainesville, FL; Dr. Michael L. Dockery, Chair, Charlotte, NC; Dr. Richard S. Isaacson, New York, NY; Dr. Gene Ryerson, Gainesville, FL; Dr. Susan L. Pekarske, Tucson, AZ; Dr. Madhav Thambisetty, Vice Chair, Silver Spring, MD; Dr. Robert Wah, McLean, VA; and Melanie Cianciotto, Corporate Trustee, Orlando, FL, in working to improve quality of life for the public by alleviating age-related memory loss.

###

About the McKnight Brain Research Foundation

Founded in 1999, the McKnight Brain Research Foundation is the nation’s only private foundation dedicated exclusively to solving the mysteries of the aging brain. By supporting research and investigation, the Foundation works to better understand and alleviate the effects of age-related cognitive decline and memory loss.



McKNIGHT BRAIN RESEARCH FOUNDATION

Preserving memory, enhancing life

The McKnight Brain Research Foundation Elects Patricia A. Boyle, PhD, to its Board of Trustees

October XX, 2020 – The McKnight Brain Research Foundation (MBRF) recently elected Patricia Boyle, PhD, professor of behavioral sciences and neuropsychologist with the Rush Alzheimer's Disease Center in Chicago to its Board of Trustees. Dr. Boyle's extensive background and research focused on preventing cognitive and functional decline in old age will help move the Foundation closer to its goal of better understanding and alleviating age-related cognitive decline and memory loss.

For the last five years, Dr. Boyle has been the Team Leader of Research Education at the Rush Alzheimer's Disease Center, where she is dedicated to developing highly skilled investigators engaged in transformative interdisciplinary aging research. She also serves as a mentor to trainees and junior faculty, oversees faculty mentorship activities and is frequently cited as a source of scientific information in national media articles.

"We are thrilled to welcome Dr. Boyle as the newest member of our Board of Trustees," said Michael L. Dockery, MD, Chair, McKnight Brain Research Foundation. "Dr. Boyle's experience as an expert clinical research neuropsychologist focused on preventing cognitive decline in older age, makes her uniquely qualified to serve as a trustee of the MBRF as we work to better understand how to prevent cognitive decline and memory loss associated with the aging process."

With cognitive changes due to the normal aging process affecting nearly 87 percent of people age 65 and older, the McKnight Brain Research Foundation is the nation's only private foundation dedicated exclusively to solving the mysteries of the aging brain and helping people achieve a lifetime of cognitive health. The Foundation supports research specifically targeting cognitive aging, age-related cognitive decline and memory loss and works to educate the public on the steps that can be taken to maintain cognitive and brain health.

Dr. Boyle's research focuses on age-related changes in cognition, financial and health decision-making, and psychological well being, with an emphasis on factors that protect against functional decline and has been continuously funded by the National Institute on Aging for two decades. She also serves on national advisory committees on aging and Alzheimer's disease and has published more than 190 peer-reviewed publications. Boyle received her PhD from the University of Massachusetts at Amherst and completed her internship and postdoctoral fellowship at Brown University in Providence, RI.

Dr. Boyle joins the MBRF's current Board of Trustees, including Dr. J. Lee Dockery, Gainesville, FL; Dr. Michael L. Dockery, Chair, Charlotte, NC; Dr. Richard S. Isaacson, New York, NY; Dr. Gene Ryerson, Gainesville, FL; Dr. Susan L. Pekarske, Tucson, AZ; Dr. Madhav Thambisetty, Vice Chair, Silver Spring, MD; Dr. Robert Wah, McLean, VA; and Melanie Cianciotto, Corporate Trustee, Orlando, FL, in working to improve quality of life for the public by alleviating age-related memory loss.

###

About the McKnight Brain Research Foundation

Founded in 1999, the McKnight Brain Research Foundation is the nation's only private foundation dedicated exclusively to discovering the mysteries of the aging brain. By supporting research and investigation, the Foundation works to better understand and alleviate the effects of age-related cognitive decline and memory loss.

Education Committee Activity Timeline
For the One-Year Period July 1, 2020, to June 30, 2021

Updated October 7, 2020

Duty (from Committee Charter)	Activity/Action	Outcome	Date	Comments
<i>"...shall develop information and resources (for the public and scientific community) on prevalence and impact of age-related cognitive decline and memory loss...."</i>	Work toward alignment of messages across the MBIs and MBRF Make substantive judgments on content and quality of educational content/statements developed for or posted on the website	Key Messages Were Approved and Distributed in Spring 2019	July 1 – June 30 ONGOING ONGOING	The Education Committee reviews content before it is posted on website, published, or included in print materials or slide presentations, ensuring consistency with key messages. The committee reviews for accuracy, soundness, and alignment with the MBRF mission and current scientific understanding and clinical practice. (The Research Committee also reviews content before making public.)
	A top priority for the committee and MBRF, as approved by the Trustees, is to identify and/or develop educational content for primary care physicians and to oversee the ongoing posting of additional information	The committee approved an outline of resources for the PCP Area on McKnightBrain.org Survey select PCPs, develop area on website. Begin to post links and approved material (i.e., NIA's)	June 30, 2020 September/ October/November	

Duty (from Committee Charter)	Activity/Action	Outcome	Date	Comments
<i>And..." assist those living with age-related cognitive decline and memory loss"</i>	Website content developed for individuals, families and caregivers of those with age-related cognitive decline and memory loss	Add links to approved articles as appropriate but development of content is on hold until PCP content is identified and developed.	ON HOLD	
<i>Inform "...how to better maintain brain health..."</i>	Website content developed for individuals on how to protect, maintain brain health	Add links to approved publications and articles	July 1 – June 30 2021 ONGOING	Committee Reviews before Posting
<i>"shall review all educational materials...."</i>	Brochure copy in development to raise awareness and promote the MBIs and MBRF to individuals, partners, donors	Review of Brochure was conducted and committee concurs with suggestions by Communications Committee	October 2020	
<i>"Identify educational opportunities and implement activities...to encourage MBIs...inspire commitment and shared vision"</i>	12 th Annual Inter-institutional Meeting McKnight Scholars Will be invited to next Inter-institutional Meeting	2020 Meeting was canceled 2021 Meeting will be virtual Develop Feature on McKnight Scholars on McKnightBrain.org	April 28 & 29 2021 Two half days IN PROGRESS	Will help promote scholarship and engage scholars
	McKnight Scholars Dinner at AAN	2020 Toronto, AAN Meeting was canceled	2021 AAN Meeting TBD	Held over - MBRF approved funding of \$4,000 to cover travel, hotel for the night, dinner, UM staff travel
	William G. Luttge Annual Lectureship in Neuroscience at the University of Florida	Annual Lectureship by research scientist of National or International prestige in the field of neurosciences	Held in March/April each year in conjunction with Brain Awareness week.	Annual Lectureship established honoring the Founding Director of the Evelyn F. and William L. McKnight Brain Institute at

Duty (Continued from previous page)	Activity/Action	Outcome	Date	Comments
	William G. Luttge Lecture (con't)		7 th lectureship was by Dr. George Koop March 11, 2019 2020 Lecture was canceled. 2021 TBD	the University of FL Lectureship value: \$250,000 An additional spendable Fund--\$50,000 for immediate inauguration of the Lectureship
<i>"work to elevate the importance of age- related cognitive decline and memory loss on the national agenda...(work toward) greater investment in research and education by federal health agencies...."</i>	IOM Study	"Public Health Dimensions of Cognitive Health" was released by the IOM (see attached document) Working Group formed under the lead of Dr. Molly Wagster	April 14, 2015 CURRENTLY NOT MEETING	Study funded by MBRF and federal agencies (NIA, CDC, NINDS, HHS), AARP, Retirement Research Foundation
		MBRF has initiated and implemented several of the IOM recommendations.	ONGOING	
		Dr. Lee Dockery was in contact with IOM (now Academy of Medicine) about issuing a report on progress	October 23, 2019	This would be unusual for the Academy of Medicine to do per Dr. Molly Wagster

Duty (from Committee Charter)	Activity/Action	Outcome	Date	Comments
		Dr. Ralph Sacco, former President of AAN, recommended to AAN that they support adding age-related cognitive decline and memory loss to curricula for requirements	July 11, 2019	Letters were sent from AAN to MBRF, American Board of Psychiatry and Neurology, and ACGME
<i>"work to elevate the importance of age-related cognitive decline and memory loss on the national agenda..." continued</i>		Dr. Robert Wah and Dr. Lee Dockery spoke by phone with Dr. Gordon Smith, Chair, AAN Education Committee, and Dr. Jaffar Khan, Chair, AAN Graduate Education Subcommittee, to discuss collaborative steps	August 8, 2019	
		Follow-up communication with Drs. Smith and Kahn and Kathy Malloy re: schedule for review of special requirements by ACGME	September 16, 2019 June 2020	On distribution list for ACGME e-Communication with schedule for review of special requirements Committee feels they've done all they can do at this time.

Content Outline for Primary Care Physicians Area of the McKnight Brain Website

Draft June 4, 2020

Overview

The McKnight Brain Research Foundation seeks to develop a designated area of its website with tools and resources to help fill educational gaps and assist primary care physicians in identifying patients at-risk for or experiencing cognitive changes due to aging. Using the information and resources provided on the website, primary care physicians will also be able to recommend or conduct cognitive screening during wellness visits and offer tips on the diet, exercise and lifestyle changes that have been proven to help maintain brain health.

Suggested Content and Resources

What is Cognitive Aging?

- Cognitive Aging 101
- General Facts on Aging/Brain Health
- Benefits of Maintaining Brain Health
- Warning Signs and Behavior Changes

Prevention

- How to Maintain Brain Health
- Exercise for Brain Health
- Brain Healthy Diet Tips

Research Snapshots

- Highlight research from McKnight Trustees or MBI scientists with patient implications

Cognitive Assessment

- Importance of Cognitive Assessment
- Warning Signs
- Online Assessment Tool (3 options)
 - Link to outside trusted resources with descriptions of what each tool does and the differences
 - Create an online form – series of 10 questions PCPs can ask patients and a scoring tool based on the questions results
 - Create our own online assessment tool – PCPs and patients can walk through the McKnight Brain Assessment Tool together and question results will generate a doctor/patient recommendation upon completion

Patient Resources

- Fact Sheets and Resources to pass along to patients showing signs of cognitive decline and age-related memory loss:
 - How to Talk to Your Doctor
 - Treatment Options
 - Lifestyle Tips to Maintain Brain Health

Research Committee Activity Timeline
For the One-Year Period July 1, 2020, to June 30, 2021
Updated October 7, 2020

Duty (from Committee Charter)	Activity/Action	Outcome	Date	Comments
<i>"Encourage and assess research at the McKnight Brain Institutes (MBIs)"</i>	Review of the Annual Reports of the MBIs	Information for scientific review includes: scientific achievements, publications, presentations, collaborations	DONE February 5, 2020	Reviewers presented at Feb 5 Trustees Meeting. Follow up letters were written to each of the MBIs. Waiting for response on from UAB about publications and UF about MOU. Paragraph drafted to add to template asking for easy to read and relevant information
		Review of MBI Annual Report Template	DONE June 15, 2020	
	Review of all New Funding Requests from MBIs	UM submitted an adjusted request for \$200,000 for pilot funding for a 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. Start Date – July 2020	The request for a gift to establish a fund to support the fellowship in perpetuity was a component of the “Investing in the Future” request considered at the July 2019 Trustees’ Meeting. The notification letter mentioned that future funding should come from other sources.
		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

Duty (from Committee Charter)	Activity/Action	Outcome	Date	Comments
<i>"Encourage and assess research at the McKnight Brain Institutes (MBIs)" continued</i>	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. \$76,276.49 still unexpended funds
	Inter-institutional Block Grants	Neuroimaging Core	Funding period: 1/1/2015 to 12/31/2017 \$931,759.00	Remaining balance: \$514,229.21
	Inter-institutional Block Grants	Cognitive Assessment and Brain Registry Core	Funding period: 9/1/2015-8/31/2017 Request for another extension was reviewed and approved at the Feb 5 Trustees meeting.	No-cost extension was provided until December 2021 Remaining Balance: \$101,275.15

Duty (from Committee Charter)	Activity/Action	Outcome	Date	Comments
	Review of Pilot Grants (Funding Requests and Progress Reports) Applications for 2021 Pilot Grants	A Novel Invention Tool – Levin Revitalizing Cognition in Older Adults – Bowers Transcutaneous Vagal Nerve Stimulation and Cognition Training – Williamson/Alexander 5 Letters of Intent were Submitted	Funding Period: 5/1/2018-4/30/2020 Funding period: 5/1/2018-4/30/2020 Approved July 2019 Funding period: 10/1/2019-9/30/2021 Deadline was extended Until Sept 1, 2020	Funding for 2-years for total of \$120,000 Progress Report Funding for 2-years for total of \$120,000 Funding for 2-years for total of \$120,000 Applications are under review. Bonnie Levin and Ron Lazar will forward as soon as available
<i>"Identify opportunities...to foster greater interest in cognitive aging and age-related memory loss (in the scientific community)"</i>	Research Partnership with the Foundation for NIH and the National Institute of Aging. 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 error. A corrected report resubmitted on Feb. 5, 2020. Posted Feb 2020; Deadline LOI Sept. 1; Application October 1, 2020 October 14, 2020	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 RFA was shared with Communications Working Group for posting and with Leadership Council. Amy to ask FNIH how we might promote studies on mcknightbrain.org

Duty (from Committee Charter)	Activity/Action	Outcome	Date	Comments
		Research Partnership	Payment due to FNIH by March 31, 2021 -2025	NIA will provide \$14M to be pooled with MBRF \$5 M. A 2.8 Match.
	Cognitive Aging Conference (CAC) 2020	Through Dr. Thambisetty, MBRF requested information about sponsoring a panel and/or poster session reception Proposal Expected from CAC	Discussions took place in April & July 2019 No proposals were received. CAC 2020 scheduled for April 16 – 19 Atlanta JW Marriott in Buckhead 2020 Mtg CANCELED	MBRF sponsored a successful panel at Cognitive Aging Conference May 2018 No MBRF representation was planned for CAC 2020
	Reserve & Resilience Workshop 2019 Reserve & Resilience Workshop Pilot Grants 2020	Over 300 Attendees (8 MBI researchers) Organizers requested \$30,000 to support (1 – 3) pilot grants	September 9 and 10 th , 2019 Bethesda In-Person Meeting CHANGED TO VIRTUAL MTG September 14 and 15, 2020 October 14, 2020	This is an outcome from Cognitive Aging Summit III held in 2017. Research Committee approved support; Trustees were notified; Dr. Yaakov Stern received notification letter and sent appreciation Dr. Stern sending a report
<i>"Encourage young investigators in this area of research"</i>	McKnight Brain Research Foundation Clinical Translational Research Scholarship with American Academy of Neurology (AAN) and American Brain Foundation (ABF)		Reviewers met in Dec. Two Scholars were selected and alternates were identified. Awardees were notified in January. Both accepted the awards. Funding starts July 1 of each cycle	<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)



MCKNIGHT CLINICAL TRANSLATIONAL RESEARCH SCHOLARSHIPS IN COGNITIVE AGING AND AGE-RELATED MEMORY LOSS

FUNDED BY THE MCKNIGHT BRAIN RESEARCH FOUNDATION

REQUEST FOR RENEWAL | OCTOBER 1ST, 2020

AMERICAN
BRAIN
FOUNDATION

CONTENTS

Executive Summary	4
Program History	5
Program Summary	7
Program Improvements	8
Current and Previous Recipients	9
Bryan Baxter, MD, PhD (2020)	12
Sarah Getz, PhD (2020)	13
Christian Camargo, MD (2019)	15
Sanaz Sedaghat, PhD (2019)	16
Kimberly Albert, PhD (2018)	18
Brice McConnell, MD, PhD (2018)	19
Request for Renewal	20
Budget	21
American Brain Foundation Board of Directors	22
American Brain Foundation Research Advisory Committee	23



“Societies world-wide are aging, and age is the biggest risk factor for neurodegenerative diseases. Yet it is not certain how age interacts with neurodegeneration. Memory loss, sleep disturbances and compromised motor function are but a few of the neurological changes with aging. Research on cognitive aging and neurodegenerative diseases is of paramount importance to the American Brain Foundation and forms the cornerstone of the Next Generation Research Grants designed to train the next generation of investigators.”

**RONALD C. PETERSON, PHD, MD, FAAN
MAYO CLINIC, DEPARTMENT OF NEUROLOGY
BOARD OF DIRECTORS, AMERICAN BRAIN FOUNDATION**

EXECUTIVE SUMMARY

Since 2018, the McKnight Brain Research Foundation has funded annually two McKnight Clinical Translational Research Scholarships (CTRS) in Cognitive Aging and Age-Related Memory Loss through the American Brain Foundation, and the American Academy of Neurology. These scholarships support early career clinician scientists with the purpose of developing the next generation of researchers working to better understand and alleviate the effects of age-related cognitive decline and memory loss.

Thanks to the generosity of the McKnight Foundation, ten early career researchers will receive scholarships between 2018-2022. To date, six clinician scientists have received McKnight scholarships, and two additional scholarships will be awarded each year in 2021 and 2022. The current McKnight scholars are engaged in interdisciplinary research projects that range from exploring the role of sleep in memory formation, to the impact of kidney disease on cognitive impairment and memory loss, to the correlation between hearing loss and scam susceptibility in older adults. Their achievements and progress to date are described in the subsequent pages.

The American Brain Foundation is deeply grateful for the McKnight Brain Research Foundation's support, and we seek the McKnight Foundation's renewed commitment to this productive collaboration with a 5-year, \$1.65M grant to support 10 additional McKnight scholars.

Thank you for your support!

PROGRAM HISTORY AND NEED

The American Brain Foundation's Next Generation Research Grants, of which the McKnight scholarships are a part, have provided crucial support to early career researchers since 1993. The program fosters a pipeline of early-career physicians and post-docs who want to devote some portion of their careers to research, helping position them to leverage funding from NIH and other entities, encouraging their passion for research and laying the groundwork for their future success.

Grants like the McKnight scholarships give clinician scientists the time and funding that they need to start their independent research career. For many, these grants are their first large-scale funding for an independent research project and provide an imprimatur on their research aims, as well as an opportunity to demonstrate effective management of a research grant, which they can then leverage for future funding. Since the start of the American Brain Foundation's Next Generation Research Grants program, over 85% of recipients have gone on to receive funding from the NIH and other sources.

Since 2018, the McKnight Brain Research Foundation has funded annually two McKnight Clinical Translational Research Scholarships (CTRS) in Cognitive Aging and Age-Related Memory Loss through the American Brain Foundation. Six researchers have already received awards, and four more scholarships will be awarded in 2021 and 2022.



“This program gave me the time and funding I needed to start my research career. I was able to demonstrate that my research is valid, and that I am able to manage a large research grant.”

2017 NEXT GENERATION RESEARCH GRANT RECIPIENT

PROGRAM SUMMARY

The McKnight scholars are truly among the best and brightest early career physician scientists, and their projects have been vetted and selected by the American Academy of Neurology's Science Committee and two trustees of the McKnight Brain Research Foundation. Each McKnight scholarship consists of a commitment of \$65,000 per year for two years, plus \$10,000 per year to support formal education in clinical research methodology.

To date, six clinician scientists have received McKnight scholarships, and two new researchers will be awarded each year in 2021 and 2022. The current McKnight scholars are engaged in interdisciplinary research projects that range from studies exploring the role of sleep in memory formation, to the impact of kidney disease on cognitive impairment and memory loss, to the correlation between hearing loss and scam susceptibility in older adults. Their achievements and progress to date are described in the subsequent pages.

PROGRAM IMPROVEMENTS

Applications for the McKnight scholarships have increased 29% from 2018 to 2021, however, there is still room to grow. In 2018, there were seven applications for the McKnight scholarships, four in 2019, twelve in 2020, and nine in 2021. Applications for all of the 2021 Next Generation Research Grants were lower than average due to COVID-19, but are anticipated to increase in 2022 and beyond as researchers are able to return to in-person clinical settings.

Targeted outreach and advertising of the McKnight scholarships will continue to be crucial. The American Brain Foundation engages its Board and Research Advisory Committee in outreach, and works closely with the American Academy of Neurology to coordinate marketing efforts to its 36,000 members. For this year's application cycle, the ABF also sent personalized letters advertising the Next Generation Research Grants to over 140 neurology department chairs across the US as well as all of our neurologist donors, and created a promotional video that was shared across social media. For the past two years, the McKnight Foundation has advertised the McKnight scholarships in *Neurology*, and has shared the scholarship opportunities across its networks.

The ABF is also embarking on a nationwide public awareness campaign that we anticipate will bring additional momentum to the Next Generation Research Grants program by raising the program's profile among the public. Over the next three years, the ABF seeks to grow public awareness of brain disease and the value of neurology by 40%, and triple its grantmaking for brain disease research to \$25M by 2024.

CTRS RECIPIENTS

AT A GLANCE

The current McKnight scholars represent the best and brightest early career clinician scientists investigating cognitive aging and age-related memory loss. Hailing from five institutions across the country, their interdisciplinary research projects are advancing our understanding of age-related cognitive decline and memory loss.



\$900,000

Awarded to six recipients in three years.



32

Applications for eight McKnight scholarships.



21

Papers published by McKnight scholars.

2020 CTRS RECIPIENTS

BRYAN BAXTER, PHD



Massachusetts General Hospital, Postdoctoral Research Fellow

- **Project Title: “Characterizing and enhancing sleep oscillations to improve memory: developing a scalable treatment for healthy aging and age-related memory loss”**
- **Interim report due June 30, 2021.**
- **Grant period ends June 30, 2022.**

Humans spend a third of their lives sleeping, yet the functions of sleep are still not clear. Over the past 20 years, research has shown that to understand memory, one must also understand sleep. It has also revealed the breadth of sleep-dependent memory consolidation, and the importance of this consolidation to cognition at all stages of life. Dr. Baxter’s research will study sleep-dependent memory consolidation to understand where this process occurs in the brain, identify a biomarker for this process that can be detected through non-invasive EEG, and develop an auditory stimulation that can improve memory consolidation during sleep.

The selection committee writes that findings from Dr. Baxter’s research “could ultimately lead to better understanding of the biological basis of sleep-memory interactions, and as a result, the study has realistic implications for possible clinical interventions.”

Prior to the start of his scholarship, Dr. Baxter published two first author articles on closed-loop auditory stimulation during sleep to improve memory consolidation deficits in schizophrenia (*Biological Psychiatry*, May 2020; *Sleep*, April 2020).

SARAH GETZ, PHD



University of Miami Department of Neurology, Instructor of Neuropsychology

- **Project Title: “Neurocognitive correlates of scam susceptibility in age-related hearing loss”**
- **Interim report due June 30, 2021.**
- **Grant period ends June 30, 2022.**

Scammers target people of all ages, but individuals 50 years and older are the most vulnerable to scams. Individuals with age-related diminished sensory abilities and cognitive decline are especially vulnerable targets. Hearing loss has been associated with cognitive decline and dementia and has negative impacts on depression, socialization, and isolation. Older adults with impaired hearing may be at a particularly high risk for scamming due to difficulty with fully processing complex demands under some circumstances.

Dr. Getz’s project will study the association between hearing loss and deception, and identify what leads older adults to be more susceptible to scams in order to develop an intervention to reduce the risk of scamming among those most vulnerable.

The selection committee noted that “characterizing neuro-cognitive correlates associated with and without hearing loss will be an important step forward in the field. Dr. Getz’s novel and clinically relevant project makes her a superb candidate for this award.”

2019 CTRS RECIPIENTS

CHRISTIAN CAMARGO, MD



University of Miami Dept. of Neurology, Assistant Professor of Clinical Neurology

- **Project Title: “Reducing the Effects of Aging on Cognition with Therapeutic Intervention of an Oral Nutrient: The REACTION Study”**
- **Interim report due January 29, 2021; final report due September 1, 2022.**
- **No-cost extension approved May 19, 2020 due to COVID-19; grant period ends June 30, 2022.**

Dr. Camargo’s research focuses on improving the memory and cognition in individuals with age-related cognitive decline (ARCD). Participants in his study receive a specifically-formulated nutrient drink. This drink contains specific nutrients that form the backbone neurons and their connections. The hypothesis is that by restoring and promoting the connections between brain cells, memory and cognition may improve.

Dr. Camargo’s project has encountered some unexpected challenges from COVID-19 and access to the nutrient drink mixture due to restructuring at the industry partner’s R&D division. To address these challenges, Dr. Camargo has been working closely with his research mentor and department chair to implement changes to the study design to increase the likelihood of successful execution while COVID-19 remains a concern. The recruitment goal will be reduced from 120 participants to 60 (30 experimental arm, 30 placebo), and some neuropsychological tests will be substituted for equivalent tests validated in a virtual context.

SANAZ SEDAGHAT, PHD



Northwestern University, Assistant Professor of Clinical Neurology

- Project Title: “Cognitive aging in kidney impairment: role of uremic toxins”
- Final report due September 1, 2021.
- Grant period ends June 30, 2021.

Dr. Sedaghat’s research aims to identify toxic molecules that target the brain and can cause an excessive risk of cognitive impairment and memory loss. Her pilot data show that higher 4-hydroxyphenylacetate metabolite is associated with worse cognitive performance. This same uremic metabolite has been previously associated with more severe stages of kidney disease. Her findings extend this prior work to show that even within the normal range of kidney function, lower levels of glomerular filtration is also associated with the presence of higher uremic metabolites and related to lower cognitive performance.

Dr. Sedaghat has also developed a number of successful collaborations through Northwestern’s Aging Brain Circulation (ABC) lab, the NIH, and the Chronic Kidney Disease Genetics (CKDGen) Consortium since the start of her McKnight scholarship. Her mentor notes that “this is an impressive level of scholarly productivity. I am delighted with Dr. Sedaghat’s progress on her proposal and her development towards research independence.”

Dr. Sedaghat has co-authored **nine publications** during her scholarship so far, including **one first author article in *Neurology***, “Decline in kidney function over the course of adulthood and cognitive function in midlife,” published in September 2020.

2018 CTRS RECIPIENTS

KIMBERLY ALBERT, PHD



Vanderbilt University, Research Instructor, Psychiatry and Behavioral Sciences

- **Project Title: “Changes in attention network dynamics related to performance in aging”**
- **Final report due September 1, 2021.**
- **No-cost extension approved June 25, 2020 due to COVID-19; grant period ends June 30, 2021.**

The goal of Dr. Albert’s research is to examine whether differences in attentional control networks are related to subjective and objective real-life cognitive performance. This study will provide important information about whether altered attention control network function is related to subjective and objective memory performance.

Dr. Albert’s mentor writes that “Dr. Albert's progress has been substantial....She has successfully initiated a complex and multifaceted project that includes phenotypic assessment, novel cognitive testing methodologies, and neuroimaging. She has successfully garnered approval from multiple regulatory bodies within Vanderbilt for study initiation and has made substantial progress on initiating study enrollment and validating data collection. In addition, Dr. Albert has continued writing and publishing research results....I believe that she will be very competitive for a career development award.”

Dr. Albert has co-authored **eleven publications** during her scholarship so far, including **one first author article** published in September 2019 in the *Journal of Affective Disorders*, and **four second author articles**, including work on the role of aging on cognition and depression.

BRICE MCCONNELL, MD, PHD



University of Colorado Anschutz Medical Center, Assistant Professor of Neurology

- **Project Title: “Development of Transcranial Electrical Stimulation for Modulation of Sleep and Cognitive Performance in Aging Adults**
- **Final report due September 1, 2021.**
- **No-cost extension approved April 14, 2020 due to COVID-19; grant period ends June 30, 2021.**

Dr. McConnell’s research explores transcranial electrical stimulation as a therapy to enhance slow wave sleep activity, and to modulate sleep quality and cognitive performance. Despite promising preliminary results with transcranial electrical stimulation, there are significant gaps in our understanding of how to reliably deliver this type of treatment during sleep to produce clinically meaningful results. Dr. McConnell is working to develop and refine this technology as a treatment for aging-associated sleep and cognitive impairment. He is exploring the potential for this technology to act as a disease modifying therapy to prevent the progression of age-associated cognitive decline and the development of Alzheimer’s disease.

During his scholarship to date, Dr. McConnell has published **one first author publication**, “Feasibility of Home-based Automated Transcranial Electrical Stimulation during Slow Wave Sleep,” published in May 2019 in *Brain Stimulation*. Dr. McConnell has also leveraged the support of his McKnight scholarship to secure additional grant funding for his ongoing research that focuses on identifying and enhancing the restorative and neuroprotective aspects of sleep that are lost with aging. He has co-authored **four successful grants**.

REQUEST FOR RENEWAL

The American Brain Foundation seeks the McKnight Brain Research Foundation's renewed investment in the McKnight Clinical Translational Research Scholarships in Cognitive Aging and Age-Related Memory Loss. The current partnership between the McKnight Brain Research Foundation and the American Brain Foundation extends through 2022. We now seek your renewed commitment to this productive collaboration with a 5-year, \$1.65M grant to support 10 additional McKnight scholars. Two scholarships per year will be awarded from 2023 to 2028.

With a renewed investment from the McKnight Foundation, we will continue the momentum around the important research on cognitive aging and age-related memory loss that has already been generated through the first three years of the McKnight scholarships. Eighty-eight percent of Next Generation Research Grant recipients have gone on to receive funding from the NIH and other national entities. With your support, we will continue to cultivate a pipeline of early career clinician scientists dedicated to finding improved diagnoses, new treatments, and ultimately cures, for brain diseases and disorders.

BUDGET

- Ten two-year McKnight Clinical Translational Research Scholarships (CTRS): **\$1.5M**
 - Cost per CTRS: **\$150,000**
 - Salary: \$65,000/year for two years
 - Education expenses stipend: \$10,000/year for two years
- 10% ABF Program Management Cost: **\$150,000**
- **Total: \$1.65M**

AMERICAN BRAIN FOUNDATION BOARD OF DIRECTORS

CHAIR:

David W. Dodick, MD, FAAN
Mayo Clinic Arizona

VICE CHAIR:

Susan Schneider Williams, BFA
Artist and Advocate

TREASURER:

James Essey
TemPositions Group

SECRETARY:

Shafali Jeste, MD, FAAN
UCLA Semel Institute

IMMEDIATE PAST CHAIR:

Kevin Goodno
Fredrikson & Byron, P.A.

HONORARY CHAIRMAN:

Walter F. Mondale

EX OFFICIO VOTING DIRECTOR:

James C. Stevens, MD, FAAN
Allied Physicians, Inc.

EX OFFICIO, NON-VOTING DIRECTORS:

Jane Ransom
Executive Director
American Brain Foundation

Mary E. Post, MBA, CAE
Chief Executive Officer
American Academy of Neurology

HONORARY DIRECTORS:

Rich Clifford
Richard Essey
Leeza Gibbons
Billy McLaughlin

DIRECTORS:

David Eagleman, PhD
Neuroscientist & Entrepreneur

James Erwin
Chicago Title Company

Jacqueline French, MD
New York University and Epilepsy
Foundation

Dan Gasby
Author, Alzheimer's & Brain Health
Advocate

Robert C. Griggs, MD, FAAN
University of Rochester Dept. of Neurology

James C. Grotta, MD, FAAN
Memorial Hermann –Texas Medical Center

Frances Jensen, MD, FACP, FAAN
University of Pennsylvania, Dept. of
Neurology

Sharon L. Klein
Wilmington Trust, N.A.

Ben Lenail
Rare Disease Activist and Biotech Investor

Cindy McCain
Businesswoman and Philanthropist

Suzanne Miller
Empire State Properties

Ronald C. Petersen, PhD, MD, FAAN
Mayo Clinic, Department of Neurology

Sean Sansiveri
NFL Players Association

Martin Shenkman, CPA, MBA, PFS, AEP, JD
Shenkman Law

Joseph I. Sirven, MD, FAAN
Mayo Clinic

AMERICAN BRAIN FOUNDATION RESEARCH ADVISORY COMMITTEE

CHAIR:

Robert C. Griggs, MD, FAAN
*University of Rochester Dept. of
Neurology*

VICE CHAIR:

Raymond Roos, MD, FAAN
University of Chicago

MEMBERS:

Carsten Bonnemann, MD
Porter Neuroscience Research Center

Jose E. Cavazos, MD, PhD, FAAN
University of Texas Health – San Antonio

Merit Cudkowicz, MD, MSC
Massachusetts General Hospital

James C. Grotta, MD, FAAN
Memorial Hermann – Texas Medical

Mark F. Mehler, MD, FAAN
Albert Einstein College of Medicine

John Morris, MD, FAAN
Washington University

Ralph Sacco, MD, MS, FAAN, FAHA
University of Miami

Eugene Scharf, MD
Mayo Clinic

Ira Shoulson, MD, FAAN
Georgetown University

Phyllis C. Zee, MD, PhD
Northwestern University Medical School



Dr. Farah Lubin (UAB)
NIH Funds R21 Grant

From: **Lubin, Farah** <flubin@uab.edu>
Date: Sun, Oct 4, 2020 at 3:40 PM
Subject: McKnight Pilot grant funds data for a new NIH R21 grant- LUBIN
To: aporter@mcknightbrf.org <aporter@mcknightbrf.org>

Dear Amy,

I hope this message finds you well and that you and yours are staying safe.

I'm an Associate Professor and McKnight Investigator at the University of Alabama at Birmingham (UAB). Dr. Ron Lazar wanted me to share some good news with you and the McKnight Board of Trustees.

In 2019, I received a pilot grant from the UAB McKnight Brain Institute which provided pilot data for submission of an NIH R21 grant. I am happy to report that this grant was successfully funded September 2020. The work supported by this new NIH grant will further demonstrate how exercise benefits the brain in health and disease. Importantly, we are pairing basic and clinical approaches to move the science forward.

I hope you share my excitement about this new research direction, and I thank the McKnight Brain Institute for the opportunity.

All my best,
Farah

Farah D. Lubin, Ph.D. | Associate Professor
Co-Director, Graduate Neuroscience Roadmap Scholar Program
Co-Director for Research, Mentored Experiences in Research, Instruction, and Teaching (MERIT) Program
Department of Neurobiology, Shelby 1102
University of Alabama at Birmingham (UAB)
School of Medicine
Office-(205) 996-6084, Fax- (205) 975-7394
Twitter: @FLUBINLAB
Lab website: www.lubinlab.com

Lubin, Farah, Ph.D.



Associate Professor

Director, NINDS Neuroscience Roadmap Scholar Program; Associate Scientist, Comprehensive Center for Healthy Aging; Associate Scientist, Comprehensive Neuroscience Center

Research Areas

Learning, memory and synaptic plasticity; epigenetics, non-coding RNAs; gene transcription; epilepsy disorders; neurodevelopment and developmental disabilities

Biography

Dr. Lubin received her undergraduate degree from Alabama State University in Montgomery, Alabama and her Ph.D. in Cell/Molecular Biology and Immunology from Binghamton University in Binghamton, New York. She has also worked as a research assistant at Memorial Sloan Kettering Cancer Center in New York. Dr. Lubin has completed two postdoctoral fellowships in Molecular Neuroscience at Baylor College of Medicine in Houston, Texas and most recently in the Department of Neurobiology at UAB. Dr. Lubin is a recipient of a Pathway to Independence Award from the National Institutes of Health (NIH/NIMH) and FASEB Award.

Research Interests

Dr. Lubin's main research work is focused on investigating the molecular and genetic basis of learning, memory and its disorders. The goal of these studies is to elucidate the role of genetic and epigenetic mechanisms in the on and off regulation of gene transcription during the consolidation of memory. These studies will provide novel insights into novel candidate transcriptional mechanism that may be involved in abnormal regulation of genes underlying memory deficits associated with neurological disorders such as epilepsy and Alzheimer's disease.

Research Partnership in Cognitive Aging

A report to the McKnight Brain Research Foundation

October 2, 2020

Foundation for the National Institutes of Health

Plasticity and Mechanisms of Cognitive Remediation in Older Adults is the centerpiece of a Research Partnership in Cognitive Aging between the McKnight Brain Research Foundation (MBRF) and the National Institute on Aging (NIA), coordinated by the Foundation for the National Institutes of Health (FNIH). The partnership—now more than a decade long—currently supports an NIA grant for a multicenter clinical research trial on remediating age-related cognitive decline through mindfulness-based stress reduction and exercise, the MEDEX trial.

The FNIH is pleased to present this 2020 report to the MBRF. It provides updates from the NIA on the MEDEX trial, as well as information on three other trials investigating plasticity and mechanisms of cognitive remediation in older adults that the NIA supports with grant awards stimulated by the MBRF/NIA partnership. An updated report of outcomes from the Cognitive Aging Summit III, held in 2017, is also provided.

“Plasticity and Mechanisms of Cognitive Remediation in Older Adults”

RFA-AG-14-016 (R01)

Remediating Age-related Cognitive Decline: Mindfulness-based Stress Reduction and Exercise (MEDEX)

The MEDEX clinical trial (R01 AG049369), awarded to Eric Lenze, M.D. at Washington University, has completed data collection. Due to the COVID-19 pandemic, a small proportion of the participants were unable to complete the final follow-up. Publication of results is expected in 2021.

The abstract for the grant:

DESCRIPTION (provided by applicant): The vast majority of older adults will suffer declines in cognitive functions such as memory and cognitive control (or executive function), interfering with their ability to participate and engage in meaningful activities. Importantly, the recent observation that the brain retains plasticity late into life suggests that timely and personalized interventions might remediate age-related cognitive decline. Two promising interventions are Mindfulness-Based Stress Reduction and Exercise, each of which appears to act in multi-modal ways to make plastic changes in CNS function to improve memory and cognitive control in older adults. Our research team has conducted several studies of these interventions, supporting their benefits and pathways to improved cognitive functioning. We propose a 2x2 factorial design RCT to definitively test MBSR and exercise for remediation of age-related cognitive decline. We will randomize 580 healthy community-living adults aged 65+ to one of four conditions: MBSR alone, exercise alone, MBSR + exercise, or health education (a control condition).

Participants will receive protocolized interventions for a six-month acute period, followed by a 12-month maintenance period. We will examine (1) cognitive improvements using a well-validated and sensitive neuropsychological battery focusing on memory and cognitive control; (2) mechanistic changes such as reduced cortisol and improved insulin sensitivity (3) neuroimaging markers of plasticity: structural and functional connectivity changes indicating plastic CNS changes underlying the cognitive improvements (4) individual variability that predicts response to the interventions. Our main goal is to carry out a high-quality clinical trial, such that data and biosamples will become a resource for the scientific community. Then, we can not only improve the lives of older adults in the

near-term by matching individuals to readily available interventions that most benefit them, we can also understand the mechanisms of neuroplastic changes with interventions to rescue cognitive decline with aging, leading to a more active and vital senior community.

PUBLIC HEALTH RELEVANCE: The world is graying, and the vast majority of older adults will have declines in cognitive function, interfering with function, quality of life, and engagement in valued activities. We will test two promising interventions - Mindfulness Based Stress Reduction (MBSR) and Exercise - for their ability to remediate age-related cognitive decline. MBSR and exercise are both inexpensive, well-tolerated, safe, and highly scalable interventions; therefore i our project can demonstrate how effective they are, for whom, and by what mechanisms, in the near term older adults could receive lifestyle strategies that would benefit their brain and cognitive functioning, staving off disability and dependence on others and maintaining engagement in life's most valued activities.

Other grants supported by the NIA, originally in response to RFA-AG-14-016

Augmenting Cognitive Training in Older Adults – The ACT Grant (R01 AG054077) Adam Woods, Ronald Cohen, Michael Marsiske (MPIs) – University of Florida

The trial is currently active. Due to the COVID-19 pandemic, there was a hiatus in data collection. Data collection has since resumed. Trial completion is now anticipated in April/May 2022 with publication of findings in July/August 2022.

The abstract for the grant:

DESCRIPTION (provided by applicant): This randomized clinical trial will test whether transcranial direct current stimulation (tDCS) of frontal cortices enhances neurocognitive and functional outcomes achieved from cognitive training in older adults experiencing age-related cognitive decline. Change in well-validated measures of neurocognitive function and everyday abilities will serve as outcome measures. Functional and structural neuroimaging biomarkers of neural plasticity and learning (fMRI, GABA MRS, etc.) will measure intervention-associated alterations in specific brain regions impacted by cognitive aging. tDCS is a noninvasive brain stimulation method that facilitates neural plasticity and learning. Accordingly, when used as an adjunctive intervention, tDCS may augment cognitive training effects. This study will leverage existing multisite clinical trial infrastructure at McKnight Brain Institutes located in two of the states with the largest representation of older adults in the United States: University of Florida, University of Miami, and University of Arizona. Adults over the age of 65 represent the fastest growing group in the US population. As such, age-related cognitive decline represents a major concern for public health. Recent research suggests that cognitive training in older adults can improve cognitive performance, with effects lasting up to 10 years. However, effects are typically limited to the tasks trained, with little transfer to other cognitive abilities or everyday skills. Effects may also be reduced in people with Alzheimer's disease risk factors. A two-phase multisite randomized clinical trial will examine the individual and combined impact of pairing cognitive training with transcranial direct current stimulation (tDCS) in older adults experiencing age-related cognitive decline (n = 360; 120 per site). Participants will consist of elderly men and women 65-90 years of age with evidence of age-related cognitive decline, but not MCI or Alzheimer's disease (MoCA $\geq$ 25). We

will compare changes in cognitive and brain function resulting from CT and CT combined with tDCS using a comprehensive neurocognitive, clinical, and multimodal neuroimaging assessment of brain structure, function, and metabolic state.

Functional magnetic resonance imaging (fMRI) will be used to assess brain response during working memory, attention, and memory encoding; the active cognitive abilities trained by CT. Proton magnetic resonance spectroscopy (MRS) will assess markers of neural plasticity, GABA concentrations, and cerebral metabolism. We hypothesize that: 1) tDCS will enhance neurocognitive function, brain function, and functional outcomes from CT; 2) Effects of tDCS on CT will be maintained up to 12 months following training, and 3) Neuroimaging biomarkers of cerebral metabolism, neural plasticity (GABA concentrations) and functional brain response (fMRI) during resting vs. active cognitive tasks will predict individual response to tDCS, with certain Alzheimer's risk factors (e.g., APOE4 genotype, family history of Alzheimer's disease) predicting poorer cognitive and functional outcome. To date, no studies have comprehensively examined combined CT and tDCS intervention in the elderly. This study will provide definitive insight into the value of combating cognitive decline in a rapidly aging US population using tDCS with cognitive training.

PUBLIC HEALTH RELEVANCE: This randomized clinical trial examines the effect of augmenting cognitive training with transcranial direct current stimulation to maximize cognitive and functional outcomes older adults experiencing age-related cognitive decline. Change in well-validated measures of everyday abilities and neurocognitive function will serve as outcome measures. Functional and structural neuroimaging biomarkers of neural plasticity and learning (fMRI, GABA MRS, etc.) will measure intervention-associated alterations in specific brain regions impacted by cognitive aging.

***Enhancing Cognitive Control Older Adults with Complementary Interventions* (R01**

AG054077) Adam Gazzaley, Patricia Arean (MPIs) – UC San Francisco

Data collection is complete and publication of primary results is expected in 2021.

The abstract for the grant:

DESCRIPTION (provided by applicant): Deficits in cognitive control are at the core of many functional declines in healthy older adults. A fundamental contributor to these deficits is compromised regulation of both external and internal attention processes, which leads to a decreased ability to effectively engage in complex, goal-directed behavior. As a result, there is a critical need to develop targeted interventions to reverse or prevent declines in regulation of attention processes in healthy older adults. Targeted cognitive training and focused-attention meditation are two interventions that hold great promise for boosting attention and cognitive control abilities in healthy older adults, but we lack a firm understanding of the neural and physiological mechanisms that underlie this positive neuroplasticity.

We also know little about whether such interventions might have multiplicative effects on cognition when administered in a combinatorial manner. The goals of the proposed research are threefold. First, we will determine the unique and synergistic effects of an externally oriented attention training paradigm and an internally oriented meditation paradigm on enhancing regulation of external and internal attention in healthy older adults, leading to improvements in functional outcomes. Second, we will examine the impact of potential genetic, physiological, and social moderators of the treatment effects in individuals and subgroups who show variability in their response to the

interventions. Third, we will document the neural and physiological mechanisms underlying the unique and synergistic plasticity associated with each individual or combined intervention. To accomplish these aims, we will conduct a randomized clinical trial in healthy older adults of two novel cognitive training paradigms that are deployed on wireless mobile devices. We will collect data from two samples: a large (N = 1650) sample that will be recruited nationally who will complete the study entirely on mobile devices and a smaller (N = 225) local sample who will also complete more in-depth lab-based cognitive assessments, EEG, structural MRI, and functional MRI. The national sample will provide the numbers needed to examine individual and subgroup differences in treatment response in an extremely diverse sampling of the general population. The local sample will allow us to dive deeper into the underlying neural and physiological mechanisms that give rise to training effects. Both groups will complete baseline, immediate follow-up, and one-year follow-up assessments of cognitive and functional outcomes, while the local group will undergo neuroimaging at all three time points. We anticipate that the unique methodological approach and experimental design will significantly advance the development of rehabilitation programs directed at the broad range of cognitive abilities and functional outcomes in both healthy and clinical populations that suffer from problematic regulation of attention and cognitive control.

PUBLIC HEALTH RELEVANCE: Cognitive deficits that occur with aging are a pervasive concern to older individuals and a growing public health issue. The goal of this project is to determine the neural and physiological mechanisms by which older adults reap cognitive and functional benefits from individual and combined cognitive and meditation training. This knowledge gained from this high-impact study will transform the field of cognitive interventions, leading to new methods that improve quality of life for older adults and individuals with cognitive impairment from neurological and psychiatric disease.

Investigating Gains in Neurocognition in an Intervention Trial of Exercise (IGNITE) (R01 AG0532952) Kirk Erickson, Jeffrey Burns, Arthur Kramer, Edward McAuley (MPIs) – University of Pittsburgh (parent site)

The trial is active. Due to the COVID-19 pandemic, data collection was first halted and now slowed. Most sites are up and running again as of this date. The exercise intervention was continued during the pandemic with videos for at-home use distributed to the study participants. Trial completion now is anticipated in 2022 with publication of primary findings anticipated for December 2022.

The abstract for the grant:

DESCRIPTION (provided by applicant): Despite the ubiquity of normal age-related cognitive decline there is an absence of effective approaches for improving neurocognitive health. Fortunately, moderate intensity physical activity (PA) is a promising method for improving brain and cognitive health in late life, but its effectiveness remains a matter of continued skepticism and debate because of the absence of a Phase III clinical trial. Here we propose a Phase III multi-site randomized clinical trial called IGNITE (Investigating Gains in Neurocognition in an Intervention Trial of Exercise) to more definitively address whether exercise influences cognitive and brain health in cognitively normal older adults. We are proposing a 12-month, multi-site, randomized dose-response exercise trial (i.e., brisk walking) in 639 cognitively normal adults between 65-80 years of age. Participants will be randomized to a (a) moderate intensity aerobic exercise condition at the public health recommended dose of 150 minutes/week (N=213), (b) a moderate intensity exercise condition at 225 minutes/week (N=213), or

(c) to a stretching-and-toning control condition for 150 minutes per week (N=213). Participants will meet 3 days/week for site-based exercise and do home-based activity on two more days of the week for 12 months. A comprehensive state-of-the-science battery of cognitive, MRI, amyloid imaging, physiological biomarkers, cardiorespiratory fitness, physical function, and quality of life measures will be assessed at baseline and after completion of the intervention. We have assembled a highly creative, productive, and interdisciplinary team with a long history of collaboration and experience conducting exercise interventions in older adults to test the following aims: Aim 1: Using a comprehensive neuropsychological battery and the NIH Toolbox, we will test whether a 12-month moderate intensity exercise intervention improves cognitive performance in older adults and (b) test whether the improvements occur in a dose-dependent manner. Aim 2: We will test whether a 12-month PA intervention augments MRI markers of brain health and whether these changes happen in a dose-dependent manner. Aim 3: We will test the hypothesis that cardiometabolic, inflammatory, and neurotrophic changes mediate improvements in brain and cognition. Aim 4: We will examine subgroups (i.e., individual differences) that attenuate or magnify the effect of the intervention on cognitive, brain, and physiological systems to better understand the factors that predict 'responders' versus 'non-responders' to the intervention. We will explore three categories of variables: (1) demographic (e.g., age) (2) genetic (e.g., APOE), and (3) baseline A β burden. Exploratory Aims: We will explore (a) whether baseline brain health metrics predict adherence and compliance to 12-months of PA, and (b) the utility of multi-modal brain imaging analytical approaches to more comprehensively understand the effects of PA on the aging brain. The results from this trial could transform scientific-based policy and health care recommendations for approaches to improve cognitive function in cognitively normal older adults.

PUBLIC HEALTH RELEVANCE: In this Phase III randomized clinical trial, we will examine the effects of aerobic exercise on cognitive and brain function in late adulthood. We will be collecting a battery of cognitive, neuroimaging, amyloid, psychosocial, physical function measures, and blood-based biomarkers to examine the outcomes and mechanisms of the intervention.

Updates on Outcomes from the Cognitive Aging Summit III

A special issue of the journal *Neurobiology of Aging* was published in November 2019 (Vol. 83, pp. 122-154 <https://www.sciencedirect.com/journal/neurobiology-of-aging/vol/83/suppl/C>) that included an introduction to the issue and six articles co-authored by the presenters and chairs of each of the six Summit sessions. (For a description of the Summit and an Executive Summary see <https://www.nia.nih.gov/research/dn/cognitive-aging-summit-iii>)

The NIA also has launched two research initiatives based on the set of recommendations from the Cognitive Aging Summit III:

- One recommendation from the 2017 Summit was to support a longitudinal study of rats that would closely track the animals throughout their lives. That recommendation is now an action.

NIA's Intramural Research Program (IRP) is developing a longitudinal study with the name **STARRRS—Successful Trajectories of Aging: Reserve and Resilience in RatS**. The study will generate state-of-the-art neuroimaging, along with phenotypic results, non-invasive biological samples plus other indicators that could give insight into the mechanisms of healthy neurocognitive aging. STARRRS will create open-source data and a sample hub to be shared with the entire aging science community. The goal is to bring us closer to an understanding of the factors that contribute to successful versus unsuccessful neurocognitive aging. The study was described in a recent presentation for the Research Centers Collaborative Network supported through NIA funding (see <https://vimeo.com/438607388>). Due to the COVID-19 pandemic, the initiation of the study had to be postponed. A state-of-the-art neuroimaging scanner is expected for delivery and set up in Spring 2021 with the first cohort of animals expected to enter the study around September 2021.

- A second recommendation from the 2017 Summit was to develop uniform definitions of terms such as resilience, reserve, compensation, maintenance, etc. so that the research community, nationally and internationally, could advance the field and our knowledge base more rapidly and lead to a better understanding of how individuals can promote and sustain brain and cognitive health. In response to that recommendation, the NIA issued an RFA (RFA-AG-18-024), "Collaboratory on Research Definitions for Cognitive Reserve and Resilience to Alzheimer's Disease (R24-Clinical Trial Not Allowed)."

One award was made to Yaakov Stern and Columbia University Health Sciences for a network grant titled "**Collaboratory on Research Definitions for Cognitive Reserve and Resilience**" (R24 AG061421).

The abstract for the grant:

Research indicates that specific life exposures and genetic factors contribute to some people being more resilient than others, with lower rates of cognitive decline with aging, and reduced risk of developing Alzheimer's disease and related dementias (ADRD). There are likely several complex and highly interactive mechanisms that lead to these individual differences in vulnerability to decline, probably reliant on both structural and functional brain mechanisms. Key

concepts often used in research in this area are cognitive reserve, brain reserve and brain maintenance. However, the definitions of these concepts differ across researchers, and the translation from human to animal research is not well developed. Also, their relationship to other invoked concepts such as efficiency, capacity, and compensation are not well explicated. The goal of this project is to work towards achieving state-of-the-art definitions for these concepts to allow researchers to use common nomenclature. In addition, the goal is to validate approaches to help advance research on these approaches that will lead to better maintenance of brain and cognitive health and treatment and/or prevention of ADRD. To that end we will hold three cross-discipline workshops that will bring together investigators to discuss and come to consensus on these concepts, create focused workgroups 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 promote research in this area.

PUBLIC HEALTH RELEVANCE: In order to achieve state-of-the-art definitions and research guidelines for key concepts associated with resilience against cognitive aging and Alzheimer's disease related dementia, this project will hold three multidisciplinary workshops, establish focused work groups, create a data sharing and information platform, and support pilot grants designed to further the understanding of these concepts.

Now moving into its third year, the PI, Dr. Stern, and his Executive Committee (Marilyn Albert, Carol Barnes, Roberto Cabeza, Alvaro Pascual-Leone, Peter Rapp), continue to advance the goals of the RFA. The website for the effort <https://reserveandresilience.com/> contains information for the two workshops that have been held to date, the latest being in early September 2020.

- A third recommendation from the 2017 Summit was to develop a registry of cognitive super agers for intensive study of factors for support of brain maintenance, cognitive reserve and resilience to neurodegenerative disease. A Request for Applications (RFA-AG-21-015; <https://grants.nih.gov/grants/guide/rfa-files/RFA-AG-21-015.html>) was released in early 2020, ***"Network for Identification, Evaluation and Tracking of Older Persons with Superior Cognitive Performance for Their Chronological Age (U19 Clinical Trial Not Allowed)."*** Applications were due October 1, 2020. NIA anticipates making an award in Summer 2021. This activity is another example of an initiative that will be supported through the Research Partnership in Cognitive Aging between the MBRF and the NIA, coordinated by the FNIH.

McKnight Brain Research Foundation Mid-Career Research Award in Cognitive Aging and Memory Loss

Founded in 1999 by Evelyn F. McKnight, the specific goal of the McKnight Brain Research Foundation (MBRF) is to better understand and alleviate age-related cognitive decline and memory loss.

While it has been stated that one in eight people 65 and older has Alzheimer's Disease, cognitive changes due to the normal aging process will affect many of the remaining 87%, impacting abilities like processing speed and decision-making and contributing to some types of memory loss. The McKnight Brain Research Foundation champions research to better understand age-related cognitive decline and memory loss and educate the public on how to maintain cognition and brain health while aging successfully.

As the only private foundation focused exclusively on differentiating cognitive aging, age-related cognitive decline and memory loss from pathological disease states, (such as Alzheimer's disease and related dementias), the MBRF has established a national platform for outreach to the scientific community and the public. To accelerate the mission of the MBRF, the Foundation has previously partnered with other institutions to establish McKnight Brain Institutes at the University of Alabama at Birmingham, the University of Arizona, the University of Miami, and the University of Florida.

The McKnight Brain Research Foundation and the McKnight Brain Institutes are leaders in cognitive aging research. Together, they are committed to sharing innovations in research and practical suggestions for maintaining brain health with the public, while supporting research leading to better understanding and alleviating age-related cognitive decline and memory loss.

OUR COMMITMENT TO RESEARCH

With direct contributions from the MBRF and strategic initiatives led by the MBRF through partnerships with the National Institute on Aging through the Foundation for the National Institutes of Health, and the four McKnight Brain Institutes, more than \$180 million dollars have been provided in funding research specifically targeted towards cognitive aging, age-related cognitive decline and memory loss. By supporting three Cognitive Aging Summits and commissioning the National Academy of Medicine's study and report on Cognitive Aging (<https://www.nap.edu/catalog/21693/cognitive-aging-progress-in-understanding-and-opportunities-for-action>), the Foundation has made great progress leading to the understanding and alleviation of the effects of age-related cognitive decline and memory loss over the last two decades.

In fulfilling its mission of *"nurturing scientists dedicated to exploring and pursuing innovative research to advance the understanding and alleviation of age-related memory loss"*, the MBRF has partnered with the American Academy of Neurology through the American Brain Foundation to fund two cognitive aging clinical translational research scholarships per year for five years. The program is designed to support physicians or PhDs who are committed to a research program in cognitive aging and memory loss and have completed their training within five years of application. Each scholarship is a two-year award for a total of \$150,000. In addition to the Scholarship program, the MBRF has previously funded individual block grant research support for inter-institutional collaborators between the four McKnight Brain Institutes.

The MBRF now proposes to extend its mission of supporting the next generation of world-class research scientists in the field of cognitive aging and memory loss by targeting outstanding mid-career scientists who have already demonstrated a firm commitment to cognitive aging research. This group of scientists is at a key milestone in their career trajectory having already proven themselves to be committed to research in cognitive aging and clearly demonstrated their potential to become leaders in their field. By providing research funding to these promising investigators as they continue to embark upon independent careers, the MBRF proposes to build a core group of outstanding research scientists across the United States with the potential to lead transformative research in the field of cognitive aging.



PROPOSAL

The MBRF proposes to establish the ***McKnight Brain Research Foundation Mid-Career Research Award in Cognitive Aging and Memory Loss***

- Length of Award: three years, renewal annually after satisfactory review
- Amount of Award: \$250,000 per year with match from the host institution
- The Foundation commits to funding the program for a five-year initial trial period which would have supported 12 scientists at the conclusion of the five-year cycle

BUDGET

Year 1	Two Awards	\$500,000
Year 2	Four Awards	\$1,000,000
Year 3	Six Awards	\$1,500,000
Year 4	Four Awards	\$1,000,000
Year 5	Two Awards	\$500,000
Total 12	Mid-career awards	\$4,500,000 (MBRF commitment)

ELIGIBILITY

All applicants for the award program must have:

- completed research/clinical training i.e. formal post-doctoral research training post-PhD and/or physicians who have completed post-residency fellowship training.
- a proven track record of research accomplishments in cognitive aging as indicated by their publications in high-impact journals, awards, and other metrics of peer recognition.
- tenure-track faculty in an academic institution in the United States with evidence of long-term institutional support as indicated by commitment of resources including laboratory space, start-up research funds and personnel. Candidates not in a tenure-track position are also eligible and should also demonstrate similar evidence of long-term institutional support and not be in a time-limited appointment.

The proposed MBRF initiative would add substantial start-up support for a period of three years to help these investigators develop and/or expand an outstanding research program in cognitive aging and memory loss. Each year, one award will be made to support studies focusing on clinical translational research and another toward understanding basic biological mechanisms underlying cognitive aging and age-related memory loss. For example, this support could be deployed towards conducting a pilot clinical trial, developing proof-of concept interventions to ameliorate age associated cognitive impairment, gather preclinical data to accelerate testing of potential interventions, and further study the mechanistic basis of age-associated cognitive impairment with a view to identifying novel treatment targets. Scientists proposing to pursue basic research should clearly articulate the potential of their findings to be translated.