SUNTRUST

Date: July 15, 2013

To: McKnight Brain Research Foundation Trustees
Henry H. Raattama, Jr. Legal Counsel

From: Melanie Cianciotto

Subject: MBRF Meeting: July 31, 2013 (Orlando, FL)

Enclosed you will find the meeting package for the July Trustees meeting to be held in Orlando, FL. Included in this package for your review are the following items: the agenda, final draft of the minutes for the April 24, 2013 board meeting, grant commitment schedule, minimum distribution calculation and other supporting material for the agenda items.

The meeting on July 31st will start at 8:00 a.m. in the Park Building, 250 S. Orange Avenue, 3rd floor (formerly known as the SunRoom).

The investment book will be sent separately.

Reservations have been made at the Grand Bohemian Hotel. Concierge level has been guaranteed for your reservations so that you may have breakfast at your leisure. Following are room confirmation numbers:

Dr. J. Lee Dockery	1157531
Dr. Michael Dockery	1157531
Dr. Nina Ellenbogen Raim	1157529
Dr. Gene Ryerson	1157528
Dr. Robert Wah	1157527
Mr. Hank Raattama	1157530

I look forward to seeing everyone in Orlando!

MC/nd

cc: Mike Hill

Enclosures

MCKNIGHT BRAIN RESEARCH FOUNDATION

July 31, 2013

Park Building, 3rd Floor
250 S. Orange Avenue
Orlando, FL

AGENDA

Wednesday, July 31, 2013

8:00 a.m. – 8:30 a.m.	1.	Call to Order	Melanie Cianciotto
8:30 a.m. – 9:00 a.m.	2.	Approval of Minutes from Board Meeting April 24, 2013	Melanie Cianciotto
9:00 a.m. – 11:00 a.m.	3.	Minimum Distribution Calculation	
	4.	Travel Award Program Update Inter-Institutional Bioinformatics Core Proposal	
	5.	Seventh Inter-Institutional Meeting Proposed Budget	
	6.	IOM Study	
	7.	University of Arizona EMBI Business Plan	
	8.	University of Miami Update	
	9.	Electronic Records	
	10.	Upcoming Dates & Events	

- Trustee's Meeting
  October 22 – 24, 2013
  University of Arizona
  Tucson, AZ
- Society for Neuroscience
  MBRF Poster Session/Reception
  November 10, 2013
  San Diego, CA
- Trustee's Meeting
  February 2014 ??
- Seventh Inter-Institutional Meeting
  April 23-25, 2014
  University of Florida
  Gainesville, FL

12:00 p.m. – 1:00 p.m.	11.	Lunch	
1:00 p.m. – 3:00 p.m.	12.	Investment and Investment Policy Review Asset Allocation Efficient Frontier Lighthouse Update	Michael Hill
3:00 p.m.		Adjournment	

MINUTES
MCKNIGHT BRAIN RESEARCH FOUNDATION
BOARD OF TRUSTEES MEETING
April 24, 2013

The Trustee's meeting of the McKnight Brain Research Foundation (MBRF) was called to order at 12:55 p.m. on April 24, in Birmingham, Alabama in the Helena Room of the Renaissance Ross Bridge.

The following members were present:

Dr. J. Lee Dockery, Trustee
Dr. Michael Dockery, Trustee
Dr. Nina Ellenbogen Raim, Trustee
Dr. Gene G. Ryerson, Trustee
Dr. Robert M. Wah, Trustee
Ms. Melanie Cianciotto, Corporate Trustee
SunTrust Bank Institutional Investment Solutions

Others attending:

Mr. Henry H. Raattama, Jr., Legal Counsel
Mr. Michael Hill, Managing Director, SunTrust Institutional Investment Solutions

1. Investment Review

Mr. Hill presented the investment review and commented on key economic and investment factors for the first quarter (Attachment 1).

A. Market Environment

- The S&P 500 advanced to a new high at quarter end with its second best start to a year behind 1998. Strong gains were posted by midcap stocks up 13% and small cap stocks up 12.4% for the quarter. Broad international equity indexes lagged U.S. equity returns during the quarter as the MSCI EAFE advanced 5.1% and the MSCI Emerging Market Index lost 1.62%, representing a reversal of strong outperformance during the third and fourth quarter of 2012.
- Fixed Income returns as measured by the Barclays Aggregate Index lost .12%, despite a 35 basis point decline in the 10-year U.S. Treasury yield from its high earlier in the quarter to finish with a yield of 1.86%. High yield and corporate bonds posted stronger gains as the search for yield continues with investors extending maturities and accepting greater credit risk.

Action Item 1: The trustees received the investment review for information.

2. HarbourVest Private Equity Discussion

Mr. Hill and the trustees engaged in a discussion regarding the additional information provided on HarbourVest's SpringHarbour 2013 Private Equity Fund (Attachment 2). Following the discussion, the trustees unanimously agreed to commit $500,000 to the HarbourVest Spring Harbour 2013 Private Equity Fund by the June 30, 2013 close date of the offering.

Action Item 2: $500,000 will be committed to the HarbourVest SpringHarbour 2013 Private Equity Fund by the June 30, 2013 close date of the offering.

3. Minutes

The minutes of the February 19, 2013 meeting of the McKnight Brain Research Foundation were reviewed. The minutes were approved as presented (Attachment 3).

Action Item 3: The trustees approved the minutes of the February 19, 2013 meeting as presented (Attachment 3).

4. Minimum Distribution Calculation

The trustees reviewed the projected minimum distribution calculation for information (Attachment 4).

Action Item 4: The trustees reviewed the projected minimum distribution calculation for information (Attachment 4).

5. Travel Award Program

The trustees reviewed the proposed budgets for the Magnetic Resonance Imaging (MRI) Standardization Scanning Project and MRI Standardization Workgroup meeting as well as a Committee Report on the Epigenetics Meetings and an Inter-Institutional Bioinformatics Proposal (Attachment 5) for information. The MRI Standardization Scanning Project and MRI Standardization Workgroup meeting budgets had previously been presented and approved via electronic mail. The trustees formally confirmed the prior approval of these budgets as previously presented.

Action Item 5: The trustees formally approved the MRI Standardization Scanning Project and MRI Standardization Workgroup meeting budgets as previously presented.

6. Evelyn F. McKnight Brain Institutes: Inter-Institutional Bioinformatics Core

The trustees discussed at length the proposal submitted by Dr. Sweatt on behalf of the MBRF epigenetics working group members to establish an inter-institutional epigenetics core. Bio-informatics has been identified by the members of the working group as an emerging scientific discipline which uses a computer to analyze large data-sets and sequences. The members of the epigenetic working group have identified that the bio-informatics capacity is absent in all four MBI Institutes. The proposal contemplates a budget of $410,000 per year for two years with budget allocations to personnel, data storage, supercomputer time and "pilot project

funds" in support of new initiatives in sequencing which would generate new epigenetics data to be analyzed within the proposed Bio-Informatics Core.

The trustees have encouraged collaboration between the research scientists in each McKnight Brain Institute (MBI). The MBRF has separately supported Leadership Council Retreats, six Inter-Institutional Meetings, two Cognitive Aging Summits and separate working group meetings in support of the MRI, Epigenetics and Cognitive Test Battery initiatives so as to support collaboration and to prevent the expenditure of funds from the resources of each McKnight Brain Institute to develop protocols of collaboration.

Issues for the trustees:

1. Each McKnight Brain Institute already receives funding in support of research in cognitive aging and age related memory loss. Why aren't existing funds used to support the epigenetics emphasis in each MBI?
2. The MBRF does not have a mechanism to distribute funding in support of Core "Co-operative" programs.
3. The MBRF cannot employ personnel or fund the personnel costs of individuals who are employees of an institution.
4. The institution is responsible for the contractual arrangements with the employee as well as performance review.
5. The MBRF does not have a way to fund a proposed budget in which the cost centers are unequally disbursed among each of the four MBIs.
6. With the emergence of Bio-Informatics and its value to research programs, shouldn't such an important program be under the umbrella of the academic institution in the form of "cores?", "Centers" or institutes?"

The discussion concluded with the decision by the trustees to discuss the concept of the establishment of an Inter-Institutional Bio-Informatics Core with the members of the Leadership Council at the April 26th Leadership Council meeting. With discussion, it is hoped the obstacles to consideration of the proposal can be sufficiently resolved; the proposal can be reconsidered at the July meeting of the trustees.

Action Item 6: The trustees will discuss the concept of the establishment of an Inter-Institutional Bio-Informatics Core with the members of the Leadership Council at the April 26th Leadership Council meeting and reconsider the proposal at the July meeting of the trustees.

6. Compensation Review

Ms. Cianciotto presented updated compensation information compiled from information obtained from the Association of Small Foundations (Attachment 6). The trustees discussed their current 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 is producing more research outcomes, which

the trustees must review and monitor without any reduction in the time devoted to 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, 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 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 and experience 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 annual compensation of $40,000 per trustee is reasonable and appropriate.

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

Action Item 7: The trustees received the updated Annual Compensation Survey for information and unanimously approved the current level of compensation at $40,000 annually and the continued reimbursement of any out of pocket expenses incurred with MBRF business (Attachment 6).

7. IOM Study

The trustees received an update on potential partners for "The Public Health Dimensions of Cognitive Health and Aging" and reviewed the funding schedule for the $700,000 commitment previously made by the MBRF (Attachment 7).

Action Item 8: The trustees received an update on potential partners for "The Public Health Dimensions of Cognitive Health and Aging" and reviewed the funding schedule for the $700,000 commitment previously made by the MBRF (Attachment 7).

8. University of Miami Proposal

The trustees were provided with information regarding the status of the Schoninger Foundation (SF) and the completion of the match by the University of Miami (UM) of the gift from the MBRF. It is anticipated the SF will be dissolved in the near future and the assets of

the SF will be used to complete the UM match. It is anticipated approximately $2 million will be left in the SF for the distribution after completion of the UM match. Interest has been expressed by the trustees of the SF in contributing the balance of the assets of the Foundation to the University of Miami if the gift could be matched by an organization with mutually compatible goals and objectives of which the MBRF is a favored organization. A draft letter expressing interest by the MBRF in considering a matching gift to the UM by the SF, in excess of the funds to complete the match to UM of the gift from the MBRF, was reviewed by the trustees of the MBRF. It was suggested that if the content of the draft letter was consistent with the intent of the trustees to consider matching the additional gift to the UM from the SF, it should be sent to Mr. Donald B. Paul, President, Bernard and Alexandria Schoninger Foundation, Inc. (Attachment 8). The trustees accepted the proposed draft letter as written with editorial change and approval of MBRF counsel.

The trustees also reviewed the proposal from the University of Miami requesting a $2 million gift to establish the Evelyn F. McKnight Endowed Chair in the Department of Neurology. After discussion, the trustees deferred making a decision regarding the proposal until the match is resolved.

Action Item 9: The trustees approved the proposed draft letter to Mr. Donald B. Paul, President, Bernard and Alexandria Schoninger Foundation conveying the interest of the MBRF in considering a match of a gift to the UM after review and approval of counsel.

Action Item 10: The trustees deferred making a decision regarding the proposal from the University of Miami for a $2 million gift to establish the Evelyn F. McKnight Chair in the Department of Neurology until the match is resolved.

9. Electronic Records

Ms. Cianciotto provided the trustees with an update on what content has been uploaded to the secure website hosted by Foundation Center. The trustees suggested Ms. Cianciotto consider hiring someone to assist in uploading the content to the secure MBRF website.

Action Item 11: Ms. Cianciotto will consider hiring someone to assist in uploading content to the secure MBRF website.

10. Upcoming Dates & Events

A. July 2013 Board of Trustees Meeting

The trustees have agreed to hold the July 2013 meeting of the MBRF in Orlando. The trustees will arrive the evening of July 30, 2013. The trustees will meet July 31, 2013 beginning at 8:00 a.m. in order to facilitate adjourning at 3:00 p.m. No social activities will be planned on the evening of arrival.

B. October 2013 Board of Trustees Meeting

The trustees have agreed to hold the October 2013 meeting of the MBRF in Arizona. The trustees will arrive the morning of October 22, 2013 and meet from 12:00 noon – 5:00 p.m. The scientific program will be held October 23 – 24, 2013 adjourning at noon on October 24, 2013.

C. Society for Neuroscience 2013 McKnight Poster Session

The poster/reception is an MBRF sponsored and hosted event for graduate students and faculty who will be attending the meeting from each of the four institutions to which the MBRF provides funding. The reception will feature scientific poster displays from each of the four McKnight Brain Institutes. The trustees are invited to attend the event, which will be held on Sunday, November 10, 2013 at a SfN assigned hotel in San Diego, CA.

11. Old Business

The trustees received a copy of a letter from Dr. Leslie P. Tolbert, Senior Vice President for Research, at the University of Arizona for information (Attachment 9). Dr. J. Lee Dockery will acknowledge the letter from Dr. Tolbert.

Action Item 12: Dr. J. Lee Dockery will acknowledge the letter from Dr. Tolbert.

12. New Business

Dr. J. Lee Dockery presented the trustees with copies of correspondence between himself and Dr. David Guzick (Senior Vice President for Health Affairs and President of UF Health) relating to the endorsement of the Press Release by the MBRF announcing support of the national brain study, for information (Attachment 10).

Action Item 13: Dr. J. Lee Dockery presented the trustees with copies of correspondence between himself and Dr. David Guzick (Senior Vice President for Health Affairs and President of UF Health) relating to the endorsement of the Press Release by the MBRF announcing support of the national brain study, for information (Attachment 10).

There being no further business, the meeting adjourned at 5:25 p.m.

Respectfully Submitted,

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Melanie A. Cianciotto
SunTrust Bank, Corporate Trustee

McKnight Brain Research Foundation

Historical Gifts

Fiscal years 2000 - 2013

	University of Alabama	*University of Arizona*	*University of Florida*	*University of Miami*	*FNIH*
Commitments	*$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)*	*$15,000,000*	*$5,000,000*	*$5,000,000*
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
	$11,000,000	$5,300,000	$15,000,000	$5,000,000	$5,000,000
Balance	$1,000,000				

Total Gift Payments*

$41,300,000

Remaining Balance of Commitments*

$1,000,000

* through July 1, 2013

McKnight Brain Research Foundation
Minimum Distribution Calculation
Fiscal years 2000 - 2012

Market Value Dec 1999 -$69,126,583	*Tax Year*	*Distributable Amount*	*Qualifying Distributions*	*Excess Distributions Carryover*	*Undistributed Income*
$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	$2,140,027	$2,662,226 (estimate)	$482,199 (estimate)	$0.00
			$43,931,083	$5,386,892	(estimated total excess carryover)

McKnight Brain Research Foundation

Projected Minimum Investment Return Calculations

(As of 07/03/2013 for fiscal year ending 6/30/2014)

Average Fair Market Value		$43,452,334.26
Less:		
	Cash held for charitable purposes (1 1/2 %)	($651,785.01)
Net value of non-charitable use assets		$42,800,549.25
Minimum Investment Return (5%)		$2,140,027.46

Net Minimum Investment Return Calculation:

Minimum investment return		$2,140,027.46
Less:		
**	Grant Payments	($2,087,173.00)
sub total	Qualifying Distributions	($2,622,226.79)
		($482,199.33)
	Excess distribution carryover (actual for '08, '09, '10,'11)	$4,904,693.00
	(estimate for '12)	$482,199.33
		$5,386,892.33

Grant Commitments Schedule

7/31/2013 Meeting

Organization	Grant Total	Paid Prior Years	Paid YTD	Scheduled Payments 2011	2012	2013	Remaining Balance
2009							
University of Alabama School of Medicine	$6,000,000.00	$5,000,000.00	$0.00	$0.00	$0.00	$1,000,000.00 10/1/2013	$1,000,000.00
Total 2009 (1 item)	$6,000,000.00	$5,000,000.00	$0.00	$0.00	$0.00	$1,000,000.00	$1,000,000.00
Grand Total (1 item)	$6,000,000.00	$5,000,000.00	$0.00	$0.00	$0.00	$1,000,000.00	$1,000,000.00

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	$4,088.44
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
		Total Spent	**$68,445.05**

UAB SCHOOL OF MEDICINE

Evelyn F. McKnight Brain Institute

April 2, 2013

Trustees
McKnight Brain Research Foundation

Dear Trustees:

I am writing to give you an update and summary concerning the McKnight Epigenetics Strategic Planning Meeting that occurred in New Orleans on January 8th and 9th 2013. In brief overview, the meeting was a great success and was very productive in outlining a Strategic Plan to allow the Evelyn F. McKnight Brain Institutes (UF, UM, UAB, UA) to collaboratively pioneer a comprehensive program to test an epigenetic hypothesis of cognitive aging. Please consider this document both a Progress Report for the Epigenetics Initiative thus far, and an initial request for financial support for establishing a new Evelyn F. McKnight Inter-Institutional Bioinformatics Core. Thus, for the first part of this letter I will provide a progress report, and attached to the letter is a Proposal and request for funding for the Bioinformatics Core, a resource to be shared collaboratively across all four Evelyn F. McKnight Brain Institutes.

You will recall that the idea of a McKnight Epigenetics and Cognitive Aging Initiative arose out of the last Inter-Institute meeting in Arizona, specifically based on discussions among the Institute Chairs and Directors and the Board at our annual morning get-together. With approval and funding from the Board, a subset of McKnight Investigators (under the loose direction of David Sweatt) decided to pursue discussing a broad collaborative initiative to propel discovery and advancement concerning the role of epigenetic mechanisms and processes in memory and cognitive aging.

Toward this end, on June 21-22 2012 David Sweatt went to Gainesville for a planning session with Tom Foster and Leonid Moroz (after extensive consultation with Carol Barnes) for beginning to outline ideas for the larger neuroepigenetics collaborative effort. This was essentially a brain-storming session that laid the groundwork to help focus the larger group's discussions that took place in the subsequent strategic planning meetings that this report covers. On August 13-15, 11 McKnight Investigators met in Gainesville to share ideas, with all Institutes represented. At this meeting we identified and developed points of potential productive interaction on epigenetic analytic methods for use in furthering our understanding of cognitive aging. Subsequently in January of this year the planning and implementation group (comprising most of the attendees of the UF meeting, plus a few highly invested and interested additional investigators) met in New Orleans to formulate a detailed plan for moving the epigenetics initiative forward. The meeting agenda and a list of participants is attached. The main output of the New Orleans meeting is the Proposal that is attached to this letter of update, specifically a proposal to catalyze discovery concerning a unifying hypothesis of epigenetics and cognitive aging, through the establishment of an inter-Institute bioinformatics core.

In brief, at the New Orleans meeting the participants identified the following strategic and logistical priorities to propel a collaborative Inter-Institute Epigenetics and Cognitive Aging Initiative and establish the

four Evelyn F. McKnight Institutes as the leading group nationally and internationally in the domain of the ***neuroepigenetics of aging***.

Strategic Priorities:

1. The study group concluded that scientifically a foundational discovery in the area of neuroepigenetics of aging would be an Epigenome-Wide Association Study (EWAS-Memory) to identify the epigenome-transcription interface and its disruption in aging. Achieving this breakthrough will require the establishment of a highly collaborative bioinformatics initiative, utilizing an inter-institute bioinformatics core available to all McKnight Institutes and physically located at the University of Florida and the University of Arizona.

2. Establish the shared Inter-Institute resource to provide a catalyst for discoveries in the area of epigenetics of cognitive aging. This is envisioned to be a "core without walls" to provide support for bioinformatic analysis of high-throughput DNA sequencing and epigenomics, bio-informatics, and cross-correlation of human and animal studies.

3. The effort will focus on novel epigenetic target discovery to provide a basis for development of innovative new therapeutics.

4. The inter-institute core initiative will have as priorities: propelling discovery through inter-Institute collaborations, McKnight mission-relevance, and high real-life therapeutic impact.

In summary, the Epigenetics Initiative meetings have been highly productive, focused, collaborative, and exceptionally innovative. The Initiative has identified a novel target area that will both propel new discoveries in cognitive aging and produce a high-profile scientific focal point with which the McKnight "brand" will be identified nationally and internationally. Innovative therapeutic approaches to cognitive enhancement in aging is a strong, viable target outcome for the initiative. With this background in mind, a specific proposal for the next stage of advancing the Evelyn F. McKnight Epigenetics and Cognitive Aging Initiative is described in the attached document.

Sincerely,

David Sweatt,
On behalf of all the participating Investigators

PROPOSAL

Evelyn F. McKnight Brain Institutes: Inter-Institutional Bioinformatics Core

Executive Summary

This proposal describes a plan of action for developing a shared collaborative resource, freely available to Investigators in each of the four Evelyn F. McKnight Brain Institutes (MBI's), that will allow cutting-edge epigenomic and bio-informatic analysis of DNA sequence-based datasets. The Inter-Institutional Bioinformatics Core will allow rapid, high-impact advances in our understanding of the role of epigenetic processes in cognitive aging, allowing the MBI's to take the leading role internationally in testing this major new unifying hypothesis for how cognitive decline occurs in aging.

In overview, this document will address the background and rationale for proposing this new Core, present an implementation and logistical plan, and describe the funding and resources needed.

Background and Significance

Epigenetic molecular mechanisms, specifically histone post-translational modifications and cytosine methylation of DNA, have recently been discovered to be critically important regulators of learning and memory. Two laboratories of two McKnight Chairs, Barnes and Sweatt, have been leading groups in moving these discoveries into the arena of cognitive aging. This initiative proposes to capitalize on these recent discoveries, by using whole-epigenome high-throughput screening approaches to identify new gene targets for potential drug development for enhancing memory formation in cognitive aging.

The impact of this work will likely extend greatly beyond cognition to the entire area of aging *per se*, as an emerging high-profile hypothesis in the broad area of organismal aging is the idea that epigenetics drives aging at the cellular level. Testing this hypothesis in the specific area of CNS and cognitive aging could allow a conceptual advance in this area, especially as related to DNA methylation and small non-coding RNAs. Thus, the scientific impact of studies of cognitive aging in our systems sill be quite high. The breadth of impact in terms of novel human therapeutics that might arise from these studies is also quite high, such therapies being relevant to almost everyone over the age of 70, and to anyone who aspires to live that long.

We propose to focus on the cognitive and CNS-based aspects of DNA chemical modification in memory for three reasons. First, understanding the role of gene methylation in *cognitive function* will have a great impact in terms of potential practical applications for augmenting human learning and memory, making this a priority area for drug development. Second, the discovery of a role for epigenetics in the ongoing function of the adult brain opens up a plethora of new possibilities for regulating memory capacity (positively and negatively) that need to be investigated. Third, understanding the role of gene transcriptional regulation in cognitive function is the long-standing expertise and focal point of many investigators operating at the Evelyn F. McKnight Brain Institutes, and is the area where we will be best able to make a rapid, profound, and meaningful impact.

What We Already Have

As one of the first steps in strategic planning for the Inter-Institute Epigenetics Initiative, we undertook a self-assessment of the relevant resources that are already available at the four MBI's, in order to gain a solid understanding of what potential already existed. The existing resources that will leverage the Inter-Institute

Core are *substantial*, encompassing scientific discoveries, technical infrastructure, and existing funding commitments. Regarding data and discoveries, as described above, McKnight Investigators already are recognized as leading the emergence of the new unifying behavioral epigenetic hypothesis of cognitive aging, laying a strong experimental foundation for the Initiative. (Although it should be noted that we are beginning to face significant competition for scientific leadership in this area from scientists at the NIA, Johns Hopkins, and the German Max Planck Institutes.) An impressive existing infrastructure of expertise and equipment is already in place at the four MBI's as well. One of the most impressive findings of our analysis of available resources was that ***among the four Institutes we already have all the necessary DNA sequencer infrastructure already in place.*** Already-available DNA sequencing equipment and computational facilities that can be brought to bear on the Initiative from the four participating Universities are valued in the tens of millions of dollars. Specifically, among the 4 participating MBI's, resources already in place that will be utilized for the initiative include 3 supercomputers and 11 Next-Generation DNA nucleotide sequencer machines (8 Hi-Seq 2000's, 1 HiSeq 2500,1 dedicated Ion Proton, and 1 Ion Torrent). Finally, there is an appreciable pool of already-existing funding commitments that will leverage the Core Initiative, Thus, significant leveraging funds have already been obtained from government agencies that, while not funding cognitive aging projects *per se*, still allow for a great degree of amplification of the impact of the McKnight Epigenetics Initiative. In particular, the UAB group under the guidance of David Sweatt as PI, has recently obtained significant funding commitments from the Defense Advanced Research Project Agency (DARPA) in the area of epigenomics of memory, and for developing new nano-technological approaches to cognitive enhancement. These commitments consist of approximately $2,000,000 in pilot funding (for one year) already approved, and an invitation from DARPA to submit an additional proposal for approximately $3,000,000 in further funding over three years. In summary, the powerful existing infrastructure and relevant resources related to the MBI Inter-Institute Bio-Informatics Core will allow implementation of the Core with great rapidity, efficiency, and impact.

What We Need

Our analysis of available resources also made crystal-clear what is missing at all four MBI's – bio-informatics capacity. Bio-informatics is the emerging new scientific subdiscipline of using computational (i.e. computer-based) approaches to grapple with enormously large data-sets. The rapid recent progress in DNA nucleotide sequencing technology, driven by the human genome project, has made large-scale "next-generation" nucleotide sequencing achievable for the biomedical researcher at reasonable costs. However, compared to the ease of use and availability of the basic technological infrastructure for DNA sequencing, the capacity to analyze and interpret these huge datasets has become the rate-limiting factor in scientific progress in this exciting new area. Also, there is a pronounced shortage nationwide of trained bio-informaticians, the practitioners of these sorts of analyses. In our self-assessment process, it became clear to the participating MBI leadership that our lack of sufficient capacity for bio-informatic analysis is a significant bottleneck and impediment to our staying on the leading edge of investigating epigenetic mechanisms in cognitive aging.

For this reason, we propose to develop an inter-institutional shared resource, the Evelyn F. McKnight Inter-Institutional Bio-Informatics Core that will allow all four MBI's to collaboratively fill the existing void in this scientific area.

Implementation Plan

Overview

The Evelyn F. McKnight Inter-Institute Bio-informatics Core will provide the following services (see Figure 1), based on our self-assessment and strategic plan:

1. High-throughput epigenomic and mRNA sequencing analysis and technical support.
2. Top-flight bio-informatics, for both routine analysis and novel analytical techniques.
3. Shared data storage and rapid transfer of data and analyses between and among the four participating MBI's.
4. Supercomputer time for bio-informatic analysis.
5. Coordinated tissue sharing, both human and animal.
6. Cross-analysis of human and animal data regarding transcriptional dysregulation in aging.
7. Information on common standardized protocols in all these domains, for consistency across MBI groups.

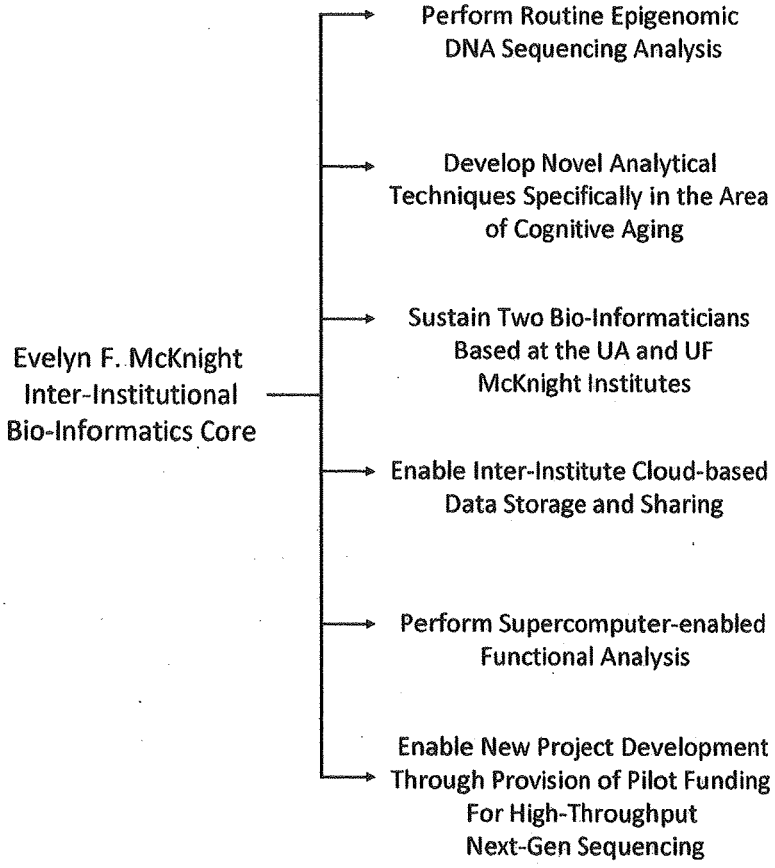


Figure 1

Logistical Considerations

1. Substantial leveraging of the initiative from individual research grants is highly likely. As described above there is already significant leveraging of the overall project in place at all four MBI's including both research funds and equipment infrastructure. At a minimum the initiative and associated shared resources will provide a basis for additional new applications for large collaborative Center-type grant applications in the future.

2. In terms of the shared resources (sequencing, bioinformatics, etc.) being allocated, strategic priorities #1 & #3 described in the cover letter (therapeutic and scientific impact, respectively) will be used to screen potential users at the various McKnight Institutes for eligibility to use the resources. A supervisory committee made up of senior Investigators from all four MBI's (specifically the McKnight Chairs: Barnes, Foster, Wright, and Sweatt) will be responsible for approving written requests for use of Core resources and analytical services.

3. There is a vitally important need that funds for reagent and next-generation sequencing costs be made available to McKnight Investigators that desire to do pilot projects in the area of the epigenetics of cognitive aging. This is a new area for many investigators, and one goal of the Initiative is to allow novel epigenetic approaches to be implemented in McKnight laboratories where these methodologies do not already exist. Expanding the number of McKnight laboratories that are pursuing the epigenetics of cognitive aging is an important component to linking these types of innovative studies to the McKnight "brand". For this reason the Inter-Institute Bioinformatics Core will also serve as a clearinghouse to review and fund new collaborative pilot projects in the area of epigenetics and cognitive aging. Overall, this component of the Core will allow McKnight Investigators new to the epigenomics field the opportunity to get their "foot in the door" regarding the use of these innovative approaches and technologies for studying cognitive aging.

Timeline and Budget

We are requesting 2 years of support in order to initialize the Inter-Institute Bioinformatics Core, at a total cost of $410,000 per year.

The budget will serve as seed funding with the plan being to secure long-term support for the Core from institutional leveraging, collaborative grants and/or fee-for-service utilization.

The cost breakout per year is as follows:

Personnel: $250,000
This will support two full-time bio-informaticians, one based at the University of Florida and one based at the University of Arizona. Office/lab space for these individuals will be provided by the host institutions, but each of the informaticians will serve all four MBI's. Care will be taken to distribute the work-load evenly across the two individuals, with each person having responsibility for projects originating at all four MBI's. In other words, we will deliberately distribute the job responsibilities so that *both* bio-informaticians interact with *all four* MBI groups – this will facilitate inter-Institute collaboration, communication, and cross-fertilization.

Data Storage: $50,000
Operation of the Core will require rapid transfer of very large quantities of data (the equivalent of entire human genome sequences, for example) between the Core and the participating Investigators physically

located at the various MBI's. To allow this, the Core will utilize Cloud-based data storage and sharing, the only practical means by which to transfer these amounts of data in a day-to-day working fashion. Costs for cloud-hosting the data files, the data sharing, etc., is requested.

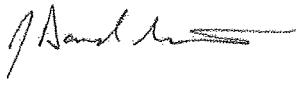
Supercomputer Time: $10,000
The bioinformatics analyses provided by the Core, indeed the *raison d'être* of the Core, will require utilization of supercomputer time in order to process nucleotide sequence information in a timely fashion. Costs for supercomputer time will be offset significantly by using the supercomputer facilities already available at UF and UA, where investigators on-site can purchase supercomputer time at university-subsidized costs. (Indeed this is one rationale for having the two physical Core sites based at UF and UA.) Nevertheless, the Core will need to purchase supercomputer processor time and funds are requested for this purpose.

Pilot Project Funds: $100,000
As described above funding for reagent and sequencing costs will be requested via a written project proposal, and funding decisions made by a committee of senior scientists representing all four MBI's (Barnes, Foster, Wright and Sweatt as described above). It is important to note that the bioinformatics analysis of the resulting data will be free (i.e. no-cost) as part of the routine operation of the Core. However, some McKnight Investigators will need modest financial support to do the initial next-gen sequencing, in order to generate the actual epigenomics data that the Core will analyze for them. Thee data and resulting bioinformatic analyses will serve as the basis for initial publications in the area of epigenomics of cognitive aging, and also as preliminary results for NIH and DoD grant applications.

Concluding Remarks

The McKnight Chairs and McKnight Investigators that participated in the three scientific review and planning sessions that led to this proposal wish to thank the Board members of the Evelyn F. McKnight Brain Research Foundation for your steadfast support and for the opportunity to present this proposal for your consideration.

Sincerely,



David Sweatt,
On behalf of all the McKnight Epigenetics Initiative Working Group members:

<u>The University of Alabama at Birmingham</u>
David Sweatt, Ph.D., Professor and Evelyn F. McKnight Endowed Chair, Director, McKnight Brain Institute, Department of Neurobiology
John Hablitz, Ph.D., Professor and Vice Chair, McKnight Brain Institute, Department of Neurobiology
Lori McMahon, Ph.D., Professor, Director, Comprehensive Neuroscience Center, McKnight Brain Institute, Department of Cell, Developmental and Integrative Biology
Scott Phillips, Ph.D., Assistant Professor, McKnight Brain Institute, Department of Neurobiology

McKnight Inter-Institutional Meeting			
Gainesville, FL			
April 23 - 25, 2014			
	Estimated Attendance	Per Person	
Lodging (2 nights)65x2=130	65	$159.00	$20,670.00
Wednesday, April 23			
Reception & Dinner	100	$70.00	$9,100.00
Thursday, April 24			
Breakfast, Breaks, Lunch	100	$84.00	$8,400.00
Museum Rental/Admission			
Dinner	100	$65.00	$6,500.00
Museum Rental/Admission		$1,825.00	$1,825.00
Friday, April 25			
Breakfast, Breaks	100	$69.00	$6,900.00
Box Lunch	100	$18.00	$1,800.00
Printing & Incidentals			$900.00
Meeting Cost Subtotal			**$56,095.00**
Travel for 65	**Attendees**		
Tucson Air	25	$650.00	$16,250.00
Miami Air	20	$650.00	$13,000.00
Birmingham	20	$500.00	$10,000.00
Meals/parking/incidentals (65)	65	$60.00	$3,900.00
Travel Cost Subtotal			**$43,150.00**
Total			**$99,245.00**

McKnight Brain Research Foundation

Inter-Institutional Meeting Costs by Year

Year	Location	Cost	Alabama Attendees	Arizona Attendees	Florida Attendees	Miami Attendees
2008	Arizona	$75,093.46	16		12	8
2009	Birmingham	$54,137.74		23	14	6
2010	Gainesville	$73,173.51	13	20		22
2011	Miami	$77,074.06	15	26	17	
2012	Arizona	$93,103.24	14		19	19
2013	Birmingham	$93,888.55		22	18	19

Cianciotto.Melanie

From: J. Lee Dockery [jld007@cox.net]
Sent: Friday, June 21, 2013 9:05 AM
To: Liverman, Cathy
Cc: McCoy, Meg; Pope, Andrew; Cianciotto.Melanie; Nina Ellenbogen Raim, MD, JD; Mike Dockery; Gene Ryerson, MD; Robert Wah, MD; DAlessandro.Nicole; Henry H. Raattama, Esq.
Subject: Re: Update

Importance: High

Good morning, Cathy!

Yes, like you, our summer is off to a roaring start. Instead, our rainy cloudy days have turned into hot sweltering days of high humidity. Air conditioning could be classified as an addiction, but one of the more pleasant ones. :~)
Thanks for the update on the status of the Cognitive Aging study. It is exciting to hear there is a substantial level of interest from other important sponsors with the hope each respective interest can be converted to a commitment
within the near future. The trustees will be meeting on July 30 and 31 and if there is additional information available in advance of the meeting, we would enjoy receiving it.

We will enjoy meeting and working with Meg McCoy. Please convey our best wishes to Andrea Schultz. It sounds like a wonderful assignment for her husband and Germany is a very desirable international destination at this time.

On behalf of the trustees of the McKnight Brain Research Foundation (MBRF), I convey our collective gratitude and appreciation for your and Dr. Pope's successful pursuit of other partner/sponsors for the Cognitive Aging Study and look forward to the contribution it will make to the understanding of cognitive aging and alleviation of age related memory loss.

With warmest regards and best wishes for a terrific summer,
Lee

----- Original Message -----
From: Liverman, Cathy
To: 'J. Lee Dockery'
Cc: McCoy, Meg ; Pope, Andrew
Sent: Thursday, June 20, 2013 7:36 AM
Subject: Update

Hi Lee,
Hope your summer's off to a great start!! We're finally getting some beautiful sunny days after what seems like many rainy/cloudy days!!
It's been a while since we gave you an update – so I wanted to let you know that we've got lots of interest and there's a lot going on as far as sponsors.
Things take time with government contracting and so right now we're awaiting Requests for Proposals from CDC, NIA, and NINDS – they all are working on those RFPs. It's also looking like VA and the Administration on Community Living will be interested in sponsoring. On the non-profit front we will be getting a proposal to the Retirement Research Foundation soon and we're hoping that AARP will provide some funding.

We're aiming for an October 1st start date. It's been so great for the fundraising to be able to convey the significant commitment of the McKnight Brain Research Foundation and we thank you for your support and also for your patience with the fund raising process!

I'm not sure if I've had the opportunity yet to introduce you to the newest member of our study team, Meg McCoy. Meg has worked at IOM for several years mostly in studies related to health care services and she brings much energy and IOM experience to our team, as well as her expertise gained through degrees in law and public health. We're also going to miss Andrea who is in the process of leaving IOM and moving to Berlin where her husband will be working with the State Dept. Transitions sure have both sad and wonderful sides!!

We'll keep you up to date with progress and hope to be starting the nomination process for committee members in October. At that point we'll welcome nominations from the McKnight trustees and we'll plan the date for the first meeting to ensure that you and others can provide the charge to the committee.

Thanks!
Cathy

****

Cathy Liverman
Study Director
Institute of Medicine
500 5th Street, N.W.
Washington, D.C. 20001
Phone: 202.334.3986
Fax: 202.334.1329
Email: cliverma@nas.edu

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Established in 1970, the IOM is the health arm of the National Academy of Sciences.

Cianciotto.Melanie

From: Carol A. Barnes [carol@nsma.arizona.edu]
Sent: Friday, July 05, 2013 2:28 PM
To: J. Lee Dockery; Cianciotto.Melanie; Nina Ellenbogen Raim, MD,JD; Mike Dockery; Gene Ryerson, MD; Robert Wah, MD; DAlessandro.Nicole; Henry H. Raattama, Esq.
Cc: Luann Snyder
Subject: RE: Target Date, Proposal Submission

Dear Trustees of the McKnight Brain Research Foundation,

As Dr. Dockery has indicated in his email to you this morning, Dr. Leslie Tolbert stepped down as Vice President for Research at the University of Arizona July 1, 2013. I have scheduled a meeting with the newly appointed Provost (Dr. Andrew Comrie), interim VPR (Dr. Jennifer Barton) and Jim Moore (President of the UA Foundation) to discuss the University of Arizona's commitment to our partnership with The McKnight Brain Research Foundation going forward.

I had hoped that the target date of July 15 to send my proposal to you could be met; however, summer vacation schedules have delayed a possible meeting with the Academic Administration until July 16. Because I believe it is important to have a discussion with, and to get clarification from my new University officials concerning our continued partnership, the submission of my proposal will be delayed until after July 16.

I will do everything possible not to go much past the target date, so that you will have plenty of time to read my proposal before your next Board meeting at the end of July.

Thank you for your patience on this matter,
and hoping you and your families had a wonderful 4th of July holiday,
Carol

Carol 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, ARL Division of Neural Systems, Memory and Aging
Associate Director, BIO5
Life Sciences North Building, room 355
PO Box 245115
University of Arizona
Tucson, AZ 85724-5115

Cianciotto.Melanie

From: J. Lee Dockery [jld007@cox.net]
Sent: Friday, March 01, 2013 5:05 PM
To: Dr. Leslie Tolbert; Dr. Carol Barnes
Cc: Cianciotto.Melanie; Nina Ellenbogen Raim, MD,JD; Mike Dockery; Gene Ryerson, MD; Robert Wah, MD; DAlessandro.Nicole; Henry H. Raattama, Esq.; Luann Snyder
Subject: Evelyn F. McKnight Brain Institute, University of Arizona

Importance: High

Dear Colleagues,

It was a pleasure to speak with each of you on February 27, 2013, via conference call.
This communication will confirm the actions of the trustees of the McKnight Bain Research Foundation (MBRF)
at their meeting on February 19, 2013, at which a proposal for increased funding of research programs
in cognitive aging at the Evelyn F. McKnight Brain Institute was discussed. Additionally, the very supportive letter
from Dr. Tolbert was reviewed along with reports from me and Dr. Ryerson on the meetings in Gainesville with the
two of you and Mr. James Moore, president of the University of Arizona Foundation on January 31, 2013.

The trustees recognize and appreciate the great amount of work and influence Dr. Barnes has had on the advancement of
research programs in cognitive aging throughout the scientific community, both nationally and internationally.
As director of the Evelyn F. McKnight Brain Institute and occupant of the Evelyn F. McKnight endowed chair in learning
and memory in aging, Dr. barns has represented the goals and objective of the MBRF in an outstanding way. In addition,
Dr. Barnes has provided the leadership to the family of McKnight Brain Institutes which has forged collaborations accompanied
by collegial relationship.

The issue central to the trustees' future consideration of funding of research support is sustainability. In today's environment,
funding partnerships which create a source of research funds which will not be depleted and can sustain the research funding
in perpetuity are the more successful models. The establishment of named endowment funds in which the principal or corpus of the
gift is preserved and the investment income on the endowment is distributed for research according the institutions spending policy
is favored by the MBRF.

Within the described context, the trustees of MBRF invite a proposal from the University of Arizona to establish an endowment fund
within the Evelyn F. McKnight Brain Institute of sufficient amount to be matched equally by the MBRF and the University of Arizona
payable over a specified period of time. When the endowment is fully funded, it would insure research funding support in cognitive aging and

associated memory loss in the aging in perpetuity from investment income, with the principal remaining whole except for fluctuations due to
market conditions. The trustees would like to receive the proposal not later than July 15, 2012, in order to be considered by the trustees
at their meeting, July 30-31, 2013.

In the meantime, because travel schedules are so busy, the trustees would like to visit the McKnight Brain Institute at the university
of Arizona on October 20-22, 2013. If these dates are not suitable please let me know, so that a mutually suitable time can be selected.

If there should be any questions do not hesitate to contact me or either of the other trustees.

Sincerely,
Lee

J. Lee Dockery, MD
Trustee, MBRF
jld007@cox.net
(352) 377-5872

To: Trustees,
McKnight Brain Research Foundation (MBRF)
From: Carol A. Barnes, Ph.D.
Director, Evelyn F. McKnight Brain Institute (EMBI)
University of Arizona, Tucson
Date: July 23, 2012
Re: Additional Funding Allotment for EMBI, Tucson
5-page Business Plan Summary

Scientific Progress, Evelyn F. McKnight Brain Institute, University of Arizona

Over the past several years the Tucson EMBI has made strong progress in the development of the tools necessary to better understand the dynamic changes in cellular circuits, molecular circuits and genetic markers that underlie memory loss in aging – in rats, in monkeys and in humans. This has been documented in the progress reports generated by this Institute. These reports have been reviewed annually by the Trustees of the MBRF. The present request is to build on and expand these achievements and to implement additional avenues of investigation. I outlined these ideas briefly at our private discussion at the fifth Inter-institutional Meeting held in Tucson this past April. At that time, the Trustees indicated that a business plan to support these goals would be considered, which has encouraged me to develop my vision further, and to provide concrete estimates of the funding that would be required to generate the desired deliverables.

Why Might the Trustees Consider an Additional Request from EMBI, Tucson?

Among the examples that I might offer as evidence that this may be a productive investment, I choose two to discuss here. The overarching goal of the MBRF and of each of its Institutes is to understand why memory changes across the lifespan – even in the highest functioning individuals – and to understand its biological basis well enough to devise ways to optimize it. A strength of the Tucson EMBI is that its Director has been interested in this very topic for ~ 40 years, has followed the field of gerontology broadly (and with great interest) over this time period, and has been active in all levels of review in the area of the biology of aging cognition, from Study Section member to member of NIA's Council. This has provided ample exposure to avenues of investigation in the field that have been fruitful, those that have not, and those that are exciting, but unlikely to be funded (because of some risk) by past and certainly current federal agency review panels. Another pertinent observation about the Director of the Tucson EMBI is that she (for reasons I cannot explain) is rather effective at getting people to work together towards common goals that result in dissemination of the targeted objectives. Two examples of this can be given from 2012. The first is the 7-manuscript issue that is almost complete for publication in *Frontiers in Aging Neuroscience* that arose out of the MBRF-supported Cognitive Test Battery working group meetings in 2011. The second is the 12-manuscript, entire volume, of the journal *Hippocampus,* on the temporal lobe region known as "perirhinal cortex". This volume will be published in time for the Neuroscience meeting this year, and provides data from humans, monkeys and rats suggesting a similar role across species for this structure in cognition. Several of these papers demonstrate the neural vulnerability and cognitive consequences of changes in the perirhinal cortex during aging in animals, including

humans. In fact, the idea for this special issue was generated at an MBRF-supported symposium on this topic, where the function of this brain area was comprehensively discussed and re-evaluated, and the evidence for altered function in aging was first presented (2010).

Because of the Tucson EMBI Director's dedication to the primary topic of interest to the Foundation, depth of understanding of the experimental and conceptual topics in this area, and ability to mount and complete "big projects", the following request is respectfully made. I would like to mount an initiative from this Institute to target a number of promising projects from multiple levels of analysis. To achieve this, I would propose to assist in design, implementation, and dissemination of the data obtained by the investigators involved (often as mentor, not author), with the goal of facilitating progress in this field. This is not a standard request; I understand that it is unusual. I believe, however, that we must do something to change and streamline funding channels so that high impact results can reach a stage of translation more efficiently. I agree that it is a different model than typical peer review, and that it would be an 'experiment'; however, I believe that this approach will lead to increased overall productivity.

What are the next steps to advance the field of the biology of cognitive aging?
As I discussed with you in April, at least 3 layers of innovation and discovery are necessary to move the field forward:

1) Development of sensitive behavioral tools to test different memory systems in the brain. Because these systems age at different rates, they may require different treatment approaches, and proper cognitive tests are fundamental to any progress in this area.

2) Development of sensitive biological tools to test brain function of different neural systems, each of which may show selective age-related changes.

When the cognitive and neural tools in these first 2 layers begin to become validated, assessment tools can then be made available to physicians, and treatment strategies can begin to be tested.

With respect to #1 above, good progress has been made in identifying existing methods that are useful and validated, and in developing new behavioral paradigms helpful to the McKnight groups and to the field. That said, we need to continue to innovate, improve and update these cognitive assessments, including making them accessible for practical application. This is a task that all Institutes are actively and productively engaged in as a group, and additional ideas for even more sensitive tests are being explored in the cognitive domain. With respect to #2, each McKnight institution is also working very hard to identify the most promising neurobiological indicators of a successfully aging brain. With respect to #3, all groups created by the MBRF share the same commitment: to conduct research that will ultimately lead to methods that can positively alter cognitive aging trajectories.

I believe that the ingredients for making progress at all 3 levels of investigation listed above exist in the melting pot of investigators that interact with the Tucson EMBI. We have not functioned as actively at the translational level (#3) compared with the cognitive (#1) and neural levels (#2), but we are now ready to add this third layer of discovery to what we do in Arizona. It is my contention that to make real progress in translation, one needs to be working and

innovating at all levels of analysis, so that tests (both neural and behavioral) can be rapidly adjusted and improved. This flexibility in basic scientific strategy will facilitate identification of those cognitive modification approaches that are not effective, enabling us to focus on and develop only the most promising strategies.

What types of projects could be supported with an additional investment in EMBI, Tucson?

Beginning with the admission that none of us are privileged in advance to know what experimental discoveries may change the course of our translational efforts, the target and immutable goal remains the same - to discover effective methods to optimize individual cognitive aging trajectories. At this point in time, I see several lines of investigation that, either with a line of stable support, or a strategic influx of support, is likely to contribute substantively to our shared goals. These experimental efforts fall into several categories:

1) Work on basic neural mechanisms of memory across species, which have potential for in depth biological analysis relevant for application to human cognitive processes;

2) Work on human populations, particularly those studied over significant time periods, that can enable deeper understanding of the range of cognitive and biological trajectories that emerge during the aging process;

3) Work on treatment strategies for optimizing cognition, with initial tests focusing on nonhuman models, transitioning to tests in humans as swiftly as possible.

Below I discuss the types of experiments that would be facilitated by an additional investment from the MBRF into the Tucson EMBI, that fall into each of the three categories listed above. I have discussed the ideas contained in the lists created below with each of the investigators named, without reference to how the experiments might procure funding. I feel confident that in each case, interesting projects with potential for important discoveries exist. As I do not know the outcome of your assessment of my proposal, this is as far as I felt comfortable in allowing the discussions with these individuals to go. But rest assured that, if given the 'green light', and with the time frame of fund availability known, I would be able to prioritize funding streams over what I imagine would be a five year period. Some of the work proposed is collaborative with my laboratory, building on or extending the ongoing efforts (and this is reflected in a stable funding stream to me for that purpose), but much of the work proposed must be driven by the expertise and creativity of the colleagues that will participate. The names mentioned reflect initial group composition, which can be expanded or contracted to include relevant experts as necessary to the problem at hand.

Basic Biological Mechanisms

Sweatt/Foster/ Barnes/others from epigenetic working group: Each of us has a different skill set for contributing to a deeper understanding of the dynamic changes in histone modifications critical for optimal cognition. This is an area of great importance with respect to therapeutic development, and there will certainly be a need for extensive animal testing at multiple levels. The McKnight group can lead the world in this pursuit if we pool our strengths.

Coleman/ Mitchell/Trouard/Barnes: Transgenic rat models of slowly developing hypertension that mimic human cardiovascular conditions have to date only been investigated with respect to effects on peripheral organs. Mitchell has transferred hypertension-inducible transgenic rats to

the Barnes laboratory, and preliminary assessment establishes cognitive, structural MRI and epigenetic neural consequences of this gradual induction of high blood pressure. I believe that if the model is developed sufficiently with respect to the brain and cognition, a better understanding of how hypertension impacts cognition in older individuals will be achieved.
Small/Brickman/Barnes: We have examined resting metabolic brain state differences in rhesus macaques, finding regional reductions within the hippocampus. Whether these changes are restricted to the temporal lobe remains to be determined, and preliminary data suggest increased activity in frontal lobes. It is possible that aging results in altered circuit connections between frontal and temporal cortices. This will be a fruitful area to explore in more depth.
Peterson/Scalf: Almost nothing is known about normative changes in perceptual systems during aging, or the impact this has on cognition. Peterson and Scalf are experts in this field, and are in a position to make important advances in our understanding of how these lower level sensory systems may be altered with age, and what impact this may have on daily activities.
Cowen: One of the biggest obstacles in cognitive testing is its time-consuming nature. Cowen has developed a number of automated versions of the tasks many of us use for rats. I would like to see these methods distributed across Institutes, and expanded to human testing.

Human Populations (existing and new)
Glisky/others: Glisky has led the field in sophisticated cognitive test methods that allow discrete functions of well-defined brain areas to be examined independently, and longitudinally. We hope to establish a McKnight Successful Aging Cohort at UA by increasing Glisky's existing longitudinal cohort of approximately 200 older adults with an additional 300 participants. The factors examined will be expanded to include genetics, cardiovascular risks, lifetime experience and/or lifestyles, and biomarkers will be identified, using neuroimaging and inflammatory marker methods. The data from these individuals will be foundational for assessing the efficacy of interventions for translational initiatives in experiments described in the next section.
Bohbot: Bohbot has a well-characterized elderly population who has been given computerized memory training in multiple cognitive domains. These treatments resulted in durable, positive modifications in cognition, and alterations of brain structure by MRI analysis. The effect size among individuals varied. Adding genetic and epigenetic analyses to this cohort will be a very powerful approach to aid in understanding individual differences in cognition with age.
Håberg/Huentelman: Håberg has access to participants of the "Hunt Study" (supported by governmental investment) that was initiated in 1984 (in total ~120,000 participants), some of whom have been followed longitudinally (~50,000). She has MRI scans, questionnaire data, and blood samples for genetic analysis for 1,000 of these individuals. This is an outstanding cohort in which to administer and validate our more sophisticated cognitive and social indicator test batteries, as well as to apply the most quantitative genetic analysis to this population.
Ryan/Glisky/Huentelman: Ryan and Glisky are developing a telephone/internet test battery that can be administered to a population of 1,000,000 people randomly selected from regions around the country with ages ranging from 50 to 90 years (may be able to expand ages at both ends). Following the initial screening, targeted subsamples will be contacted for genetic analysis via saliva samples. Cross sectional norms of specific forms of memory could be established, with sufficient power for Huentelman to examine true genetic/epigenetic variations associated with memory profiles, using novel next generation molecular biological tools.

Wright/Alexander/Huentelman/Coleman/Roher/Reiman: It is clear that differential aging of the cardiovascular system can contribute to the variability in cognitive outcomes experienced in aging. We have significant expertise in cognitive testing, cardiovascular function, neuroimaging, and genetic and epigenetic analysis. Working together, this team can pinpoint cardiovascular variables (biomarkers) that most critically impact cognitive aging, suggesting therapeutic targets.

Translational Efforts

Gallagher/Barnes: The Barnes laboratory has identified a possible electrophysiological signature of behavioral slowing with age, and Gallagher's company may have a compound that can modify this neurobiological change. In the end, a combination of compounds may be most effective, but we have begun to explore this experimentally. If preliminary results look promising I would like to accelerate the numbers of animals for preclinical testing studies in my lab.

Gazzaley/Arnsten: Gazzaley has developed an interesting behavioral test for humans that we are adapting to the bonnet macaques in the lab in Tucson. Arnsten has experience with administering pharmacological agents to nonhuman primates. Working together, we will apply newly developed cognitive tests for monkeys, similar to those used to test memory in older humans, and will attempt to ameliorate the negative effects of interference on memory in these older animals with a variety of pharmacological manipulations.

Madhavan: Madhavan has a very interesting pluripotent stem cell model in which she can explore how "brain environment" promotes survival of these cells. The idea is to manipulate the external brain cell environment in old rats to see whether stem cells and neurons benefit, using a variety of behavioral tests as outcome measures for assessing good cognitive health.

Hecht/Reiman/Barnes: Hecht has discovered a class of molecules known as "multifunctional radical quenchers"(MRQs) that have free radical self-propagation properties that are antioxidant in nature and increase ATP production. I would like to extend these tests to live animals, with tests of cognition in aging. Reiman is very interested in these compounds with respect to human testing in disease, and in assisting with human clinical trials for such compounds.

Whiteman: Whiteman studies the detoxification effects of plant-based chemicals known as "mustard oils", and has a test system in flies that is extremely promising. After further development of the behavior screening fly model system, a number of the compounds that are particularly successful in this model can be tested in cognitive aging rat models for efficacy.

Hruby/Restifo: Hruby is a well-known medicinal chemist, with particular talents in synthesis methods development, for which he has won numerous awards. We have begun discussing targets for compound creation that we can test in Restifo's high throughput fly memory screening tool, with a goal of testing promising compounds in cognitive aging rat models.

Mehl/Glisky: These investigators are conducting a social media study in the elderly that should provide helpful practical solutions for social isolation that sometimes occurs in older individuals. Optimization and development of these tools could result in cognitive aids for at risk elderly.

Kaszniak: A completely different approach may also be fruitful to explore with respect to cognitive wellbeing in older adults – namely the potential benefits of meditation practice. Kaszniak is an expert in program evaluation of different forms of these practices and, combined with other approaches, may also become an important component for use in a "cognitive health tool kit" that we are all interested in developing for the elderly.

Business Plan Budget

Approximate budget allocations below are for Operations and Personnel for the 5 **Basic Biological Projects**, the 5 **Human Population Projects**, and the 8 **Translational Projects**, given the proposed 5 year time frame. The EMBI Funding Stream budget is for the Barnes Laboratory's participation in the studies, and strategic funding of new initiatives. If these funds are awarded, I will be able to devote substantial time between January 2013 and August 2015 for the implementation of these experimental efforts. In the academic year 2013-2014, I can reduce my teaching load, and in the 2014-2015 academic year, I will be eligible for sabbatical. This 2.5 year window will enable Barnes to create the necessary structure for flexible and effective project oversight of ongoing work, which will include the ability to nimbly eliminate less productive avenues, and capture new promising initiatives.

	Year 1	Year 2	Year 3	Year 4	Year 5
Funding Stream for EMBI					
Barnes	$250,000	$250,000	$250,000	$250,000	$250,000
Basic Biological Mechanisms					
Sweatt/Foster/Barnes	$40,000	$40,000	$40,000	$40,000	$40,000
Coleman/Mitchell/Trouard/Barnes	$20,000	$20,000	$20,000	$20,000	$20,000
Small/Brickman/Barnes	$10,000				
Peterson/Scalf	$10,000	$20,000			
Cowen	$20,000	$20,000	$20,000	$20,000	$20,000
Human Populations					
Glisky	$200,000	$200,000	$200,000	$200,000	$200,000
Bohbot	$20,000	$60,000	$70,000		
Håberg/Huentelman	$70,000	$70,000	$70,000	$70,000	$70,000
Ryan/Glisky/Huentelman	$25,000	$50,000	$75,000	$25,000	$25,000
Wright/Alexander/Huentelman/Coleman/Roher/Reiman	$10,000	$25,000	$30,000	$50,000	$50,000
Translational Efforts					
Gallagher/Barnes	$50,000	$50,000	$50,000		
Gazzaley/Arnsten	$40,000				
Madhavan	$15,000	$15,000	$15,000	$15,000	$15,000
Hecht/Reiman/Barnes	$60,000	$50,000	$50,000	$150,000	$150,000
Whiteman	$50,000	$50,000	$30,000	$30,000	$30,000
Hruby/Restifo	$80,000	$50,000	$50,000	$100,000	$100,000
Mehl/Glisky	$15,000	$15,000	$15,000	$15,000	$15,000
Kaszniak	$15,000	$15,000	$15,000	$15,000	$15,000
Total	**$1,000,000**	**$1,000,000**	**$1,000,000**	**$1,000,000**	**$1,000,000**

Additional Information on Endowed Chair and MBRF Gift Accounts
University of Arizona
Evelyn F. McKnight Brain Institute

2011/2012 Final Figures for Endowed Chair and MBRF Gift Accounts

The final figures are available now for the 2011/2012 fiscal accounting year, and the investment report for that time period is given below in **Table 1**.

Table 1. Investment Report July 1, 2011 – June 30, 2012

Endowed Chair		
Summary for 12 months ending June 30, 2012		
Account Name: **Evelyn F. McKnight Chair for Learning and Memory in Aging**		
A. Beginning Balance on July 1, 2011	$	866,326.00
B. Investment Growth	$	(13,173.65)
C. Distributions (to Endowed Chair Expendible)	$	(32,548.00)
D. Additional Contributions	$	-
E. Ending Balance on June 30, 2012	$	820,604.35
Institute		
Summary for 12 months ending June 30, 2012		
Account Name: **Evelyn F. McKnight Brain Institute**		
A. Beginning Balance on July 1, 2011	$	4,136,487.00
B. Investment Growth	$	(65,865.89)
C. Distributions (to Institute expendable account)	$	(743,518.96)
D. Additional Contributions	$	-
E. Ending Balance on June 30, 2012	$	3,327,102.15

Endowed Chair Account

For the Endowed Chair Account, the initial 2006/2007 Endowment was $1,000,000. Because of losses in the investments (change in market value), the beginning Endowment balance for 2012/2013 is $820,604 (**Table 2**). Naturally the hope is that the market will turn around, and we'll have more "positive" outcome years in the future. Regardless, some distributions will be made yearly to the Chair, and over the next decade it will likely be ~ $30,000.

Table 2. Evelyn F. McKnight Endowed Chair for Learning and Memory in Aging from 2006 to 2012

	Year 1 2006/2007	Year 2 2007/2008	Year 3 2008/2009	Year 4 2009/2010	Year 5 2010/2011	Year 6 2011/2012	Year 7 2012/2013
McKnight Contribution	**$1,000,000**						
Beginning Balance	$ 1,000,000	$ 1,058,618	$ 950,360	$ 746,926	$ 789,766	$ 866,326	$ 820,604
Change in Market Value	$ 58,618	$ (108,259)	$ (203,434)	$ 42,840	$ 76,560	$ (45,722)	$

MBRF Gift Account Investment Variance

The projected and actual return on the **MBRF Gift Account** from the initial application in 2005 (and signed agreement in 2006) is shown in **Table 3**. Two primary things happened to shorten the time for spend down of this account: 1) reduced annual interest return, and 2) increased Institute costs incurred for salaries and benefits, and increased costs of animal care. Fortunately, I have **not** lost my primary R01s that support my laboratory (something that many laboratories have experienced). I have also continued to make small distributions to support projects outside my laboratory.

Table 3. UA Evelyn F. McKnight Brain Institute Projected and Actual Investment Return and Distributions

	Year 1 2006/2007	Year 2 2007/2008	Year 3 2008/2009	Year 4 2009/2010	Year 5 2010/2011	Year 6 2011/2012	Year 7 2012/2013	
Anticipated Beginning Account Balance from 2006 Gift Agreement	$0	$940,000	$1,959,900	$3,066,492	$4,267,143	$4,629,850	$4,317,763	
Actual Account Balance	$0	$940,000	$1,825,325	$2,448,781	$3,656,604	$4,136,488	$3,327,103	
Difference	$0	$0	-$134,575	-$617,711	-$610,539	-$493,362	-$990,660	
	Year 8 2013/2014	**Year 9 2014/2015**	**Year 10 2015/2016**	**Year 11 2016/2017**	**Year 12 2017/2018**	**Year 13 2018/2019**	**Year 14 2019/2020**	**Year 15 2020/2021**
Anticipated Beginning Account Balance from 2006 Gift Agreement	$3,979,148	$3,611,750	$3,213,124	$2,780,614	$2,311,342	$1,802,181	$1,249,741	$650,344
Estimated Account Balance*	$2,377,103	$1,627,103	$877,103	$127,103	$0	$0	$0	$0
Difference	-$1,602,045	-$1,984,647	-$2,336,021	-$2,653,511	-$2,311,342	-$1,802,181	-$1,249,741	-$650,344

* Estimated figures include zero growth and $750,000 withdrawal from investment as requested January 2010 and implemented FY 2011/2012, with the exception of an additional $200,000 withdrawal in 2012/2013 for increased primate imaging expenses in this time period.

Summary

Taking into account the summary of the financial picture reviewed above, two options frame the range of possible outcomes for the future financial status of the University of Arizona Evelyn F. McKnight Brain Institute. The first is to allow the MBRF Gift Account to end in 2017, when the funds are expended (**Option 1**). On the other end of the spectrum, there could be another 5 million dollar distribution from the MBRF to this Institute, to which I would seek a 5 million dollar match (**Option 2**). This would allow the ambitious projects outlined in my

proposal to be carried out, and it would potentially extend significant funding of the Institute through at least 2022. An intermediate option that could be considered is another gift from the MBRF that would be placed into an endowment that would be matched (**Option 3**). All indications from those I have spoken to at the University of Arizona are that there is little opportunity for matching funds to go into a permanent endowment. Thus the match would be used to support the research mission of the Institute, with the endowment used as leverage to acquire these additional funds. With this scenario, significant expenditures for my laboratory and a reduced number (compared to the second option) of other projects would continue until 2021, and the interest on the investment would continue in perpetuity. The first option is outlined in **Table 3**. Option 2 is estimated in **Table 4** and Option 3 is estimated in **Table 5**. The options outlined in Tables 4 and 5 depend on the decision of the MBRF on my proposal, and my ability to raise the relevant matching funds. Admittedly, I cannot predict either with certainty.

Table 4. Estimated Account in Future Years if a $5 Million Gift is Expendable and Matched

Quasi Endowment

	yr 7 2012/2013	yr 8 2013/2014	yr 9 2014/2015	yr 10 2015/2016	yr 11 2016/2017	yr 12 2017/2018	yr 13 2018/2019	yr 14 2019/2020	yr 15 2020/2021	yr 16 2021/2022	yr 17 2022/2023
McKnight Contribution											
Beginning Balance	$3,327,103	$2,496,879	$2,122,766	$1,769,026	$1,436,391	$1,125,621	$837,503	$536,853	$225,360	$0	$0
6% development fund											
Long-term growth (3.6%)	$119,776	$89,888	$76,420	$63,685	$51,710	$40,522	$30,150	$19,327	$8,114	$0	$0
Withdrawals to expendable account											
Withdrawals to Barnes Projects	-$950,000	-$89,888	-$76,420	-$63,685	-$51,710	-$40,522	-$330,800	-$330,800	-$233,494	$0	$0
Withdrawals to Additional McKnight Projects	$0	-$374,112	-$353,740	-$332,635	-$310,770	-$288,118	$0	$0	$0	$0	$0
Year End Balance	$2,496,879	$2,122,766	$1,769,026	$1,436,391	$1,125,621	$837,503	$536,853	$225,360	$0	$0	$0

Permanant Endowment

McKnight Contribution		$1,000,000	$1,000,000	$1,000,000	$1,000,000	$1,000,000					
Beginning Balance	$0	$1,000,000	$1,940,000	$2,880,000	$3,820,000	$4,760,000	$4,700,000	$4,700,000	$4,700,000	$4,700,000	$4,700,000
6% development fund		-$60,000	-$60,000	-$60,000	-$60,000	-$60,000					
Long-term growth (3.6%)		$36,000	$69,840	$103,680	$137,520	$171,360	$169,200	$169,200	$169,200	$169,200	$169,200
Income to the Endowment (Barnes)		-$36,000	-$69,840	-$103,680	-$137,520	-$171,360	-$169,200	-$169,200	-$169,200	-$169,200	-$169,200
Year End Balance	$0	$940,000	$1,880,000	$2,820,000	$3,760,000	$4,700,000	$4,700,000	$4,700,000	$4,700,000	$4,700,000	$4,700,000

Match

Match		$1,000,000	$1,000,000	$1,000,000	$1,000,000	$1,000,000					
Beginning Balance	$0	$1,000,000	$1,000,000	$1,000,000	$1,000,000	$1,000,000	$0	$0	$0	$0	$0
Institute Support (Barnes Projects)		-$624,112	-$603,740	-$582,635	-$560,770	-$538,118					
Institute Support (Additional McKnight Projects)		-$375,888	-$396,260	-$417,365	-$439,230	-$461,882					
Year End Balance	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Total Distributions

Total Support to Barnes Projects		$750,000	$750,000	$750,000	$750,000	$750,000	$500,000	$500,000	$402,694	$169,200	$169,200
Total Support to Additional McKnight Projects		$750,000	$750,000	$750,000	$750,000	$750,000	$0	$0	$0	$0	$0

Long-Term Growth estimated at 3.6%
Income to Institute estimated at 3.6%

Table 5. Intermediate Option that Includes a $5 Million Permanent Endowment and Expendable Match

Quasi Endowment

	yr 7 2012/2013	yr 8 2013/2014	yr 9 2014/2015	yr 10 2015/2016	yr 11 2016/2017	yr 12 2017/2018	yr 13 2018/2019	yr 14 2019/2020	yr 15 2020/2021	yr 16 2021/2022	yr 17 2022/2023
McKnight Contribution	$0	$1,000,000	$1,000,000	$1,000,000	$1,000,000	$1,000,000					
Beginning Balance	$3,327,103	$3,496,879	$4,062,767	$4,649,026	$5,256,391	$5,885,621	$5,537,504	$4,236,854	$2,889,381	$1,493,398	$47,161
6% development fund		-$60,000	-$60,000	-$60,000	-$60,000	-$60,000					
Long-term growth (3.6%)	$119,776	$125,888	$146,260	$167,365	$189,230	$211,882	$199,350	$152,527	$104,018	$53,762	$1,698
Withdrawals to expendable account											
Income to Institute (Barnes support)		-$125,888	-$146,260	-$167,365	-$189,230	-$211,882	-$199,350	-$152,527	-$104,018	-$53,762	-$1,698
Withdrawals to Barnes Projects	-$950,000	$0	$0	$0	$0	$0	-$550,650	-$597,473	-$645,982	-$696,238	-$47,161
Withdrawals to Additional McKnight Projects		-$374,112	-$353,740	-$332,635	-$310,770	-$288,118	-$750,000	-$750,000	-$750,000	-$750,000	$0
Year End Balance	$2,496,879	$3,062,767	$3,649,026	$4,256,391	$4,885,621	$5,537,504	$4,236,854	$2,889,381	$1,493,398	$47,161	$0

Match

Match		$1,000,000	$1,000,000	$1,000,000	$1,000,000	$1,000,000					
Beginning Balance	$0	$1,000,000	$1,000,000	$1,000,000	$1,000,000	$1,000,000	$0	$0	$0	$0	$0
Institute Support (Barnes Projects)		-$624,112	-$603,740	-$582,635	-$560,770	-$538,118					
Institute Support (Additional McKnight Projects)		-$375,888	-$396,260	-$417,365	-$439,230	-$461,882					
Year End Balance	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Total Distributions

Total Support to Barnes Projects	$950,000	$750,000	$750,000	$750,000	$750,000	$750,000	$750,000	$750,000	$750,000	$750,000	$48,858
Total Support to Additional McKnight Projects		$750,000	$750,000	$750,000	$750,000	$750,000	$750,000	$750,000	$750,000	$750,000	$0

Long-Term Growth estimated at 3.6%
Income to Institute estimated at 3.6%

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Summit (#)
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From: J. Lee Dockery [jld007@cox.net]
Sent: Saturday, July 13, 2013 8:39 AM
To: Sacco, Ralph
Cc: Clinton Wright, MD; Cianciotto.Melanie; Nina Ellenbogen Raim, MD,JD; Mike Dockery; Gene Ryerson, MD; Robert Wah, MD; DAlessandro.Nicole; Henry H. Raattama, Esq.
Subject: Re: Update

Ralph,

Thanks for your reply concerning the status of the dissolution of the Schoninger Foundation. It is easy to understand how the comparison of the legal process to "watching paint to dry", came about. :~) The trustees of the McKnight Brain Research Foundation will meet again in October, following the July meeting. In the interim, the trustees would appreciate receiving any additional information as it becomes available.

With warmest regards and best wishes,

Lee
----- Original Message -----
From: "Sacco, Ralph" <RSacco@med.miami.edu>
To: "J. Lee Dockery" <jld007@cox.net>
Cc: "Wright, Clinton" <c.wright21@med.miami.edu>
Sent: Friday, July 12, 2013 12:31 PM
Subject: Re: Update

Lee,

Hope you are enjoying your Summer and staying cool.

Sorry I did not get back to you more quickly, but these legal things move slowly as you are well aware. Here is the latest update (with much detail) as to where we stand on the petition to dissolve the Schoninger Foundation. We continue to make progress and all are very optimistic that this will happen this year, but as you can see we do not have a definite result yet. We greatly appreciate the Board continuing to monitor our request and we will keep providing timely updates as soon as we know something.

Best,
Ralph

Forwarded Message -----
From: "Kavoukjian, Michael E."
<mkavoukjian@whitecase.com<mailto:mkavoukjian@whitecase.com>>
To: "'donpaul52@bellsouth.net<mailto:'donpaul52@bellsouth.net>'"
<donpaul52@bellsouth.net<mailto:donpaul52@bellsouth.net>>
Cc: "'jfogel2633@aol.com<mailto:'jfogel2633@aol.com>'"
<jfogel2633@aol.com<mailto:jfogel2633@aol.com>>;
"'fhsandstrom@gmail.com<mailto:'fhsandstrom@gmail.com>'"
<fhsandstrom@gmail.com<mailto:fhsandstrom@gmail.com>>; "Perri, Kerry O'Rourke" <kperri@whitecase.com<mailto:kperri@whitecase.com>>
Sent: Wednesday, July 10, 2013 2:18 AM
Subject: Schoninger Foundation Update

Dear Don:

As you know, on June 20 we sent a copy of the Petition for Modification of Settlement Agreement and a Waiver and Consent form to each of the living Schoninger family members who signed the original settlement agreement. Because Samuel Schoninger is deceased, we also sent these materials to the attorney for his estate and requested a signed Waiver and Consent from the personal representative.

To date, we have received signed consents from Jane Marcus, Mark Schoninger (Howard's son), and Charles Schoninger (Samuel's son). It is somewhat encouraging that one member of each of the three family groups has signed, as this at least indicates that there is no edict from any one group leader to his or her children or siblings to refrain from signing.

We also received a response from the attorney for Samuel's estate indicating that (i) the personal representative (a woman named Barbi Hoefling) will not sign the Waiver and Consent without an opinion from her attorney, and (ii) Ms. Hoefling does not wish to pay the legal fees for such an opinion from Samuel's estate or her own assets. The attorney advised that if Ms. Hoefling's consent is required, the Foundation would need to pay his legal fees for reviewing the papers and issuing an opinion. We have not yet responded to the attorney.

We will wait until next week before following up with the remaining parties (we do not want to appear to be pressuring them to sign, but that will be over three weeks since they received our package). We will then give them another two weeks or so, until July 30, to return the Waivers and Consents, If we are ultimately able to obtain Waivers and Consents from all of the parties except Ms. Hoefling, it may make sense to pay her attorney fees (with a pre-set limit of, say, $5,000) in order to obtain her signed Waiver and Consent so that we can show the court unanimous agreement among all interested parties for early termination of the Foundation. If it appears that we will not be able to obtain Waivers and Consents from all of the other remaining parties by July 30, then we would simply proceed to file in court the Petition with the Waivers and Consents that we do have, schedule a hearing and serve notice of the hearing on the non-consenting parties (including Ms. Hoefling), who would then need to appear in court to voice any objections. If none of them files objections or appears at the hearing, we would present our case to the court and, we hope, prevail. However, since having affirmative written consents from all interested parties would be particularly compelling to the court, we recommend waiting another few weeks to try and obtain those.

We will keep you updated regarding our progress.

Kind Regards,

Mike

Sent from my BlackBerry Wireless Handheld

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the advice set forth herein with respect to U.S. federal tax issues was not intended or written by White & Case LLP to be used, and cannot be used, by you or any taxpayer, for the purpose of avoiding any penalties that may be imposed on you or any other person under the Internal Revenue Code.

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From: "J. Lee Dockery" <jld007@cox.net<mailto:jld007@cox.net>>
Date: Friday, July 5, 2013 8:41 AM
To: rsacco <rsacco@med.miami.edu<mailto:rsacco@med.miami.edu>>, "Wright, Clinton" <c.wright21@med.miami.edu<mailto:c.wright21@med.miami.edu>>
Cc: Melanie Cianciotto <Melanie.Cianciotto@suntrust.com<mailto:Melanie.Cianciotto@suntrust.com>>, "Nina Ellenbogen Raim, MD,JD" <N39LGC@AOL.COM<mailto:N39LGC@AOL.COM>>, Mike Dockery <Mike.Dockery@OrthoCarolina.com<mailto:Mike.Dockery@OrthoCarolina.com>>, "Gene Ryerson, MD" <generyerson@gmail.com<mailto:generyerson@gmail.com>>, "Robert Wah, MD" <1techdoc@gmail.com<mailto:1techdoc@gmail.com>>, Nicole D'Alessandro <nicole.dalessandro@suntrust.com<mailto:nicole.dalessandro@suntrust.com>>, "Henry H. Raattama, Esq." <hank.raattama@akerman.com<mailto:hank.raattama@akerman.com>>
Subject: Update

Dear Ralph,

The trustees of the McKnight Brain Research Foundation will meet July 30-31, 2013.
Is there any additional information you will like to share with the trustees about the status of the Schoninger Foundaton Gift?

I hope all is well with you and that you enjoyed a wonderful July 4th celebration.

Lee

McKnight Brain Research Foundation
Upcoming Dates/Events (2013-2014)

2013

October 2013	November 2013
MBRF Board of Trustees Meeting University of Arizona October 22 - 24, 2013 Arrive morning October 22, 2013 Depart noon October 24, 2013	***MBRF Board of Trustees Meeting*** San Diego, CA Poster Session/Reception November 10, 2013 6:30 - 8:30 p.m. Hilton San Diego Bayfront Indigo Ballrooms D-H

2014

February 2014	April 2014	July 2014	October 2014
MBRF Board of Trustees Meeting To be determined	***MBRF Board of Trustees Meeting*** **Inter-Institutional Meeting** University of Florida April 23 - 25, 2014 Hilton University of Florida Conference Center	***MBRF Board of Trustees Meeting*** To determined	***MBRF Board of Trustees Meeting*** To be determined