

MINUTES OF THE MEETING
OF THE
MICHIGAN STATE UNIVERSITY
BOARD OF TRUSTEES

April 15, 2016

President Simon called the meeting of the Board of Trustees to order at 9:35 a.m. in the Board Room.

Trustees present: Brian Breslin, Dianne Byrum, Joel Ferguson, Melanie Foster, Mitch Lyons, Brian Mosallam, George Perles, and Diann Woodard.

University officers present: President Simon, Provost and Executive Vice President Youatt, Executive Vice President Udpa, Vice President and Secretary Beekman, Vice President and General Counsel Noto, Vice Presidents Gore, Haas, Hsu, Maybank, Swain, Young, and Zecher, and Senior Advisor and Director Granberry Russell. Faculty liaisons present: John Bell, Martin Crimp, Joseph Francese, Mary Noel, and Mariam Sticklen. Student liaisons present: Brian Batayeh, Domonique Clemons, Amanda Hohly-Seng, and Dee Jordan.

All actions taken were by unanimous vote of the Trustees present, unless otherwise noted.

1. On a motion by Trustee Breslin, supported by Trustee Foster, the **BOARD VOTED to approve** the agenda.
2. On a motion by Trustee Ferguson, supported by Trustee Lyons, the **BOARD VOTED to approve** the minutes of the February 19, 2016 Board of Trustees meeting.
3. Board of Trustees Award Presentations

Trustees Ferguson and Lyons presented the Board of Trustees Award to the following students:

1. Phillip Baeza—Major: Finance; Member of the Honors College; 4.0 GPA
2. Trenton Bradley—Major: Accounting; Member of the Honors College; 4.0 GPA
3. Matthew Charles—Major: Chemistry; Member of the Honors College; 4.0 GPA

4. Nadia Chupka—Major: Neuroscience; Member of the Honors College; 4.0 GPA
5. Andrea Cohn—Major: Media and Information; Second Major: Criminal Justice; Member of the Honors College; 4.0 GPA
6. Elizabeth DeVaux—Major: Marketing; Member of the Honors College; 4.0 GPA
7. Matthew Diamond—Major: Marketing; 4.0 GPA
8. Kara England—Major: Psychology; 4.0 GPA
9. Ryan Furdock—Major: Human Biology; 4.0 GPA
10. Rachel Griffin—Major: Genomics and Molecular Genetics; Member of the Honors College; 4.0 GPA
11. Margaret Halloran—Major: Interdisciplinary Studies in Social Science; Member of the Honors College; 4.0 GPA
12. Maxwell Harder—Major: Political Science—Prelaw; Member of the Honors College; 4.0 GPA
13. Benedict Hilado—Major: Human Biology; Member of the Honors College; 4.0 GPA
14. Christine Isaguirre—Major: Biosystems Engineering; Member of the Honors College; 4.0 GPA
15. Abigail Jankelovitz—Major: Psychology; 4.0 GPA
16. Diana Jasser—Major: Neuroscience; Member of the Honors College; 4.0 GPA
17. Joseph Johnson—Major: Finance; Member of the Honors College; 4.0 GPA
18. Keila LaFreniere—Major: Human Biology; 4.0 GPA
19. Hannah Laur—Major: Human Biology; Member of the Honors College; 4.0 GPA
20. Craig Lenhausden—Major: Human Biology; 4.0 GPA

21. Erica Melkonian—Major: Physiology; Second Major: Neuroscience; Member of the Honors College; 4.0 GPA
22. Ervin Novas Nunez—Major: Economics; Member of the Honors College; 4.0 GPA
23. Chelsea Nowlin—Major: Animal Science; Member of the Honors College; 4.0 GPA
24. Megan O'Donovan—Major: Genomics and Molecular Genetics; Second Major: Psychology; Member of the Honors College; 4.0 GPA
25. Emily Oja—Major: Fisheries and Wildlife; Member of the Honors College; 4.0 GPA
26. Leonard Pennisi—Major: Social Work; 4.0 GPA
27. Alexander Pouba—Major: Supply Chain Management; Member of the Honors College; 4.0 GPA
28. Mackenzie Robson—Major: Biomedical Laboratory Science; Member of the Honors College; 4.0 GPA
29. Mercedes Salisbury—Major: Advertising; 4.0 GPA
30. Aaron Schroeder—Major: Criminal Justice; Member of the Honors College; 4.0 GPA
31. Andrew Slatin—Major: Mechanical Engineering; Member of the Honors College; 4.0 GPA
32. Jacob Smith—Major: Finance; 4.0 GPA
33. Margaret Spenchian—Major: Communication; 4.0 GPA
34. Lauren Straley—Major: English; Member of the Honors College; 4.0 GPA
35. Bowen Tan—Major: Electrical Engineering; Member of the Honors College; 4.0 GPA
36. Timothy Taviano—Major: Computer Science; Member of the Honors College; 4.0 GPA

37. Cattleya Trager—Major: Japanese; 4.0 GPA
38. Chuqiao Xu—Major: Accounting; Member of the Honors College; 4.0 GPA

Provost Youatt acknowledged the Board of Trustees Award recipients who were not able to attend:

1. Philip Chacko—Major: Physiology; 4.0 GPA
2. Nicholas Durak—Major: Computer Science; Member of the Honors College; 4.0 GPA
3. Jacob Gibson—Major: Biochemistry and Molecular Biology; Member of the Honors College; 4.0 GPA
4. Kelly Mortensen—Major: Dietetics; Member of the Honors College; 4.0 GPA
5. Connor Moul—Major: Supply Chain Management; Member of the Honors College; 4.0 GPA
6. Jessica Mutrynowski—Major: Nursing; 4.0 GPA
7. Tessa Opalka—Major: Marketing; Member of the Honors College; 4.0 GPA
8. Nolan Reichkitzer—Major: Chemical Engineering; Member of the Honors College; 4.0 GPA
9. Kate Rentschler—Major: Psychology; Member of the Honors College; 4.0 GPA
10. Joseph Saum—Major: Chinese; 4.0 GPA
11. Jacqueline Thelen—Major: Biosystems Engineering; Member of the Honors College; 4.0 GPA
12. Garret Zuk—Major: Mathematics; Member of the Honors College; 4.0 GPA

4. President's Report

President Simon provided the following report to the Board.

A. Student Achievements

Members of the student radio station, Impact 89FM, took first place in five of the eight categories in this year's Michigan Association of Broadcasters (MAB) radio awards. For an unprecedented 13th time, the station will receive the Gold Record award as Michigan's College Station of the Year.

A team of MSU Financial Market Institute Scholars took first-place at a stock pitch competition at Ohio State University on April 1.

The MSU Debate team finished in the top four out of 78 teams competing at the National Debate Tournament earlier this month. Tyler Thur, an Honors College senior majoring in international relations, and math senior Margaret Strong, were narrowly defeated in the semi-finals by a team from Harvard, which went on to win the tournament.

Connor Munsinger, an Honors College sophomore majoring in Computer Science, and Luc Walkington, a freshman majoring in International Relations, also competed for MSU and finished in the top 32.

MSU's Collegiate DECA team brought home 13 first, second, and third place awards, as well as eight finalist medals, at the annual State Career Development Conference in Grand Rapids. The team's next stop is the International Career Development Conference, in Washington, D.C., where students will compete against other state conference winners.

The MSU Student Horticulture Association landscape team placed first at the National Association of Landscape Professionals National Collegiate Landscape Competition last month. This year marks the 19th consecutive year that MSU has had a team in the competition. Among the 683 students competing, Ben Harcey placed second in total points scored by an individual.

MSU took a delegation of 18 undergraduate and graduate students to the 14th Annual Model African Union Conference in Washington, D.C. The delegation took home three awards from the conference.

B. Trustee George Perles

President Simon congratulated former MSU head football coach, player and current Trustee George Perles for receiving the 2016

Legacy Award at the sixth annual Spartan Winter Tailgate. President Simon thanked Trustee Perles for all he has done and continues to do for the Spartan community.

C. Coal Update

President Simon announced that MSU is no longer burning coal at the T.B. Simon Power Plant.

Dr. Simon noted that future attempts to reduce greenhouse emissions will require much more attention to energy consumption and efficiency. The pace of technology and electricity-using devices is outstripping efforts in conservation. That will be a major challenge for the University community moving forward in order to meet sustainability goals.

D. Faculty and Alumni Achievements

MSU professor Joan Rose is the 2016 recipient of the Stockholm Water Prize, announced at the United Nations' World Water Day celebration in Geneva. The Stockholm Water Prize is the world's most-prestigious water award, given to recognize outstanding water achievements and encourage interest in water and sustainability issues. It will be presented by the King of Sweden, during the annual World Water Week celebration in August.

Michigan State University's Janice Beecher, director of MSU's Institute of Public Utilities, was appointed by Gov. Rick Snyder to serve on the 21st Century Infrastructure Commission.

David Kramer, MSU Hannah Distinguished Professor in photosynthesis and bioenergetics, is the recipient of the American Society of Plant Biologists 2016 Charles F. Kettering Award.

Two Michigan State University College of Natural Science researchers have been selected to receive Alfred P. Sloan Research Fellowships: MSU's Matthew Hirn, a computational mathematician, and Kendall Mah, a high-energy particle experimentalist.

Amy Ralston, Michigan State University assistant professor of biochemistry and molecular biology, is among 105 researchers being honored by President Barack Obama as recipients of the Presidential Early Career Awards for Scientists and Engineers.

Roshni Kulkarni, emeritus professor of pediatrics and human development, has been named one of 11 “Women Leaders in Hematology” by the American Journal of Hematology.

For the 16th consecutive year, Michigan State University has earned a spot on the Peace Corps’ Top Volunteer-Producing Colleges and Universities list, with 33 Spartans currently making a difference around the world as volunteers.

Later this month, MSU alum Dr. Michael J. Gonzalez will be inducted into the Orthomolecular Medicine Hall of Fame for his significant contributions to the field of Orthomolecular Medicine and particularly for his research on IV vitamin C and cancer over the past decades.

E. Staff Achievements

The Spartan Ticket Office has been recognized as the nation's top ticket office of 2015.

MSU’s Office of Communications and Brand Strategy (CABS) has won a number of awards recently. All nine of MSU’s entries won awards at the Mid-Michigan Addy Awards.

CABS also won two awards at the West-Michigan Addy Awards, with the College of Human Medicine also bringing home two awards. MSU’s Rob Jackson was honored with the highest award as the 2016 Silver Medal recipient.

CABS won eight awards, including five gold, in the Higher Education Marketing Awards competition.

At the district American Advertising Awards, MSU won a gold award for the Create Your Spartan Snowflake feature. The Voices Rising exhibit on the second floor of the Union won a Silver, and the design for the Spartan Dialogues discs won a bronze.

F. Athletic Achievements

Michigan State men’s basketball coach Tom Izzo will be part of the 2016 class to be inducted into the Naismith Memorial Basketball Hall of Fame. Dr. Simon congratulated Coach Izzo for this well-deserved recognition.

She also congratulated both the men's and women's basketball teams for their strong showings this season.

The President extended special congratulations to Denzel Valentine, whose exceptional play led MSU to a Big Ten Tournament Championship. He has been named a First-Team All-American honoree, and was honored with seven different national player of the year awards this season.

Michigan State women's golfer Katie Sharp shot an eight-under-par 208, tied for the second-lowest 54-hole total in school history, to win the Clemson Invitational on April 10. It marked Sharp's first career collegiate win and the third of the season for the Spartans.

G. Diversity and Inclusion Initiatives

Building a stronger, more welcoming and more inclusive campus community is key to fulfilling MSU's institutional values.

The town hall meetings, group discussions, and other sessions held across campus regarding these issues have been fruitful. The administration is continuing and expanding dialogues with key student groups that are intended to develop and enhance cross-cultural understanding in the MSU community. President Simon looks forward to continued constructive discussion and actionable ideas.

She noted that much remains to be done, but MSU is committed to advancement in inclusive excellence.

H. Diversity Report

Senior Advisor and Director Granberry Russell presented the Diversity and Inclusion at MSU Annual Progress Report for 2014-15.

The full report can be viewed at: <http://www.inclusion.msu.edu/>

5. There was no Public Participation on Issues Germane to the Agenda.

6. Personnel Actions

Provost Youatt presented the following personnel actions:

Pittendrigh, Barry, AY—MSU Foundation Professor, Department of Entomology, College of Agriculture and Natural Resources; MSU Agriculture BioResearch, \$190,000 with Tenure, effective August 16, 2016.

Sun, Fei, AY—Associate Professor, School of Social Work, \$93,000, with Tenure, effective August 16, 2016.

Trustee Byrum **moved to approve** the recommendations, with support from Trustee Ferguson.

THE BOARD VOTED to approve the recommendations.

Provost Youatt presented the following personnel action:

Hoppenstand, Gary, AY—Professor, Department of English, to add the title of Secretary for Academic Governance, Office of the Secretary for Academic Governance, and for a change in salary to \$142,000, effective August 16, 2016.

Trustee Byrum **moved to approve** the recommendation, with support from Trustee Ferguson.

THE BOARD VOTED to approve the recommendation.

7. Gifts, Grants, and Contracts

Vice President Hsu presented the Gifts, Grants, and Contracts Report for the period January 21, 2016 through March 17, 2016. The report is a compilation of 442 Gifts, Grants and Contracts plus 71 Consignment/Non-Cash Gifts, with a total value of \$136,515,634.

Trustee Foster **moved to approve** the recommendation, with support from Trustee Breslin.

THE BOARD VOTED to approve the recommendation.

Vice President Hsu introduced Dr. Korine Wawrzynski, Assistant Dean for Academic Initiatives and Director for Undergraduate Research. Dr. Wawrzynski introduced Ms. Irene Li, an undergraduate student double majoring in Genetics and Interdisciplinary Studies in Social Science Global Community Health, with minors in Japanese and Bioethics. Ms. Li made a presentation to the Board on Perspectives on Cancer. (Appendix A)

Vice President Hsu introduced Dr. Andrea Bozoki, Professor in the Department of Neurology & Ophthalmology. Dr. Bozoki introduced Ms. Ashley Sanderlin, a PhD candidate in the Neuroscience Program and a King-Chavez-Parks Fellow. Ms. Sanderlin made a presentation to the Board on Modifiable Risk Factors for Alzheimer's Disease. (Appendix B)

8. Finance Committee

Trustee Foster presented the Trustee Finance Committee Report and recommendations.

A. Fund Functioning as an Endowment—Joan C. Smith Fund for Fine Arts Programming

It was recommended that the Board of Trustees establish a fund functioning as an endowment to provide support for the creation of fine arts programming (classical music) on WKAR radio.

BE IT RESOLVED that the Board of Trustees of Michigan State University hereby establishes a fund functioning as an endowment entitled "Joan C. Smith Fund for Fine Arts Programming."

Trustee Foster **moved to approve** the recommendation, with support from Trustee Ferguson.

THE BOARD VOTED to approve the recommendation.

B. Fund Functioning as an Endowment—Joan C. Smith Fund for Educational Programming.

It was recommended that the Board of Trustees establish a fund functioning as an endowment to provide support for the creation of educational programming and services on WKAR TV.

BE IT RESOLVED that the Board of Trustees of Michigan State University hereby establishes a fund functioning as an endowment entitled "Joan C. Smith Fund for Educational Programming".

Trustee Foster **moved to approve** the recommendation, with support from Trustee Breslin.

THE BOARD VOTED to approve the recommendation.

C. 2016-17 Housing and Dining Rate Recommendations

It was recommended that the Board of Trustees authorize the Administration to implement academic year 2016-17 room and board rates consistent with the projected rate increase presented in January 2013.

BE IT RESOLVED, that the Board of Trustees of Michigan State University hereby adopts the basic residence hall double room and board rate of \$9,734 for freshman, transfer, and returning students who select the silver unlimited meal plan for the 2016-17 academic year; and

BE IT FURTHER RESOLVED, that the Board adopts rates effective August 1, 2016, for the new 1855 Place apartments of \$800 per month for a one-bedroom family unit, \$925 per month for a two-bedroom family unit, while Spartan Village apartment rates shall remain at \$656 per month for a one-bedroom unit and \$782 per month for a two-bedroom unit, and the University Village apartment rates shall remain at \$719 per month/per person for a four-bedroom unit.

Trustee Foster **moved to approve** the recommendation, with support from Trustee Breslin.

THE BOARD VOTED to approve the recommendation.

- D. Investment Manager—Drake Capital Advisors LLC (increased commitment)

It was recommended that the Board of Trustees increase the commitment to Drake Capital Advisors LLC from \$30 million to \$60 million.

BE IT RESOLVED, that the Board of Trustees of Michigan State University hereby approves a \$60 million commitment for Drake Capital Advisors LLC.

Trustee Foster **moved to approve** the recommendation, with support from Trustee Breslin.

THE BOARD VOTED to approve the recommendation.

- E. Revised Investment Policy (Endowment Spending Rate)

It was recommended that the Board of Trustees amend its Investment Policy to change the endowment spending rate from

5.00% of the average market value of the Common Investment Fund as calculated for the twenty quarters of the five calendar years prior to the beginning of the fiscal year in which the spending is expected to occur (“Average CIF Value”) to 4.8% of the Average CIF Value for fiscal year 2016-2017 and 4.6% for subsequent fiscal years.

BE IT RESOLVED, that the Board of Trustees of Michigan State University hereby approves the attached amendment to its Investment Policy, Board Policy 01-07-01. (Appendix C)

Trustee Foster **moved to approve** the recommendation, with support from Trustee Breslin.

THE BOARD VOTED to approve the recommendation.

F. Authorization to Plan—Engineering Research Complex—Addition and Renovations (Fraunhofer Center Expansion)

It was recommended that the Board of Trustees authorize the Administration to plan for renovations at, and an addition to, the Engineering Research Complex.

BE IT RESOLVED, that the Board of Trustees of Michigan State University hereby authorizes the Administration to plan for the project entitled “Engineering Research Complex—Addition and Renovations (Fraunhofer Center Expansion)”.

Trustee Foster **moved to approve** the recommendation, with support from Trustee Lyons.

THE BOARD VOTED to approve the recommendation.

9. Policy Committee

Trustee Byrum presented the Trustee Policy Committee Report and recommendations.

A. Revisions to Bylaws for Academic Governance

It was recommended that the Board of Trustees approve revisions to the Bylaws for Academic Governance.

BE IT RESOLVED, that the Board of Trustees at Michigan State University hereby approves the attached revisions to the Bylaws for Academic Governance. (Appendix D)

Trustee Byrum **moved to approve** the recommendation, with support from Trustee Mosallam.

THE BOARD VOTED to approve the recommendation.

B. Proposal to Create the Plant Resilience Institute

It was recommended that the Board of Trustees create the Plant Resilience Institute, a new unit to organize MSU research in plant biotic and abiotic stress.

BE IT RESOLVED, that the Board of Trustees hereby establishes the Plant Resilience Institute.

Trustee Byrum **moved to approve** the recommendation, with support from Trustee Lyons.

THE BOARD VOTED to approve the recommendation.

C. Approval of Contract Terms

It was recommended that the Board of Trustees approve a contract between Michigan State University and *Alphabet Energy, Inc.*, a company in which faculty member Dr. Donald T. Morelli holds a financial interest.

Be it resolved, that the Board of Trustees of Michigan State University hereby approves an amendment to an exclusive license agreement with *Alphabet Energy, Inc.*, consistent with earlier public notice given at a Board meeting and with the "Amended Exclusive License Agreement Term Sheet" presented to the Board. (Appendix E)

It was recommended that the Board of Trustees approve a contract between Michigan State University and *Biophotonic Solutions, Inc.*, a company in which faculty member Dr. Marcos Dantus holds a financial interest.

Be it resolved, that the Board of Trustees of Michigan State University hereby approves a purchase agreement with *Biophotonic Solutions, Inc.*, consistent with earlier public notice given at a Board

meeting and with the “Purchase Agreement Term Sheet” presented to the Board. (Appendix F)

It was recommended that the Board of Trustees approve a contract between Michigan State University and *Kopess Biomass Solutions, LLC*, a company in which faculty members Dr. Kyung-hwan Han and Dr. Daniel E. Keathley, and Okran Han, a Professional Aide, hold a financial interest.

Be it resolved, that the Board of Trustees of Michigan State University, hereby approves a lease agreement with *Kopess Biomass Solutions, LLC*, consistent with earlier public notice given at a Board meeting and with the “Lease Agreement Term Sheet” presented to the Board. (Appendix G)

It was recommended that the Board of Trustees approve a contract between Michigan State University and *Piezonix, LLC*, a company in which faculty member Dr. Nizar Lajnef holds a financial interest.

Be it resolved, that the Board of Trustees of Michigan State University hereby approves an option agreement with *Piezonix, LLC*, consistent with earlier public notice given at a Board meeting and with the “Option Agreement Term Sheet” presented to the Board. (Appendix H)

Trustee Byrum **moved to approve** the recommendations, with support from Trustee Mosallam.

THE BOARD VOTED to approve the recommendations.

D. Notice of Intent to Negotiate Contracts

Pursuant to State law, Trustee Byrum gave public notice of the University’s intent to negotiate contracts with *Black Pine Engineering, LLC*, a Michigan limited liability company. Blake Gower, a Teaching Assistant in the College of Engineering, Thomas Qualman, a Teaching Assistant in the Department of Mechanical Engineering, Andrew VanderKlok, a Research Assistant in the Department of Mechanical Engineering, and members of their families have, or have options to buy, an interest in the company.

Pursuant to State law, Trustee Byrum gave public notice of the University’s intent to negotiate contracts with *FreezeBack, LLC*, a Michigan limited liability company. Dr. Jose Cibelli, a Professor in

the Department of Animal Science, and members of his family have, or have options to buy, an interest in the company.

Pursuant to State law, Trustee Byrum gave public notice of the University's intent to negotiate contracts with *Kopess Ag Tech, LLC*, a Michigan limited liability company. Dr. Kyung-Hwan Han, a Professor in the Department of Horticulture, and Okran Han, a Professional Aide in the Department of Horticulture, and members of their families have, or have options to buy, and interest in the company.

E. MSU Honor Code

Trustee Byrum stated that during the meeting with the student liaisons to the Board there was a very positive discussion of the honor code for undergraduate students. The honor code was created by ASMSU and has been reviewed by Academic Governance. Academic integrity is critical to the success of a university and its students and faculty. The Board congratulates ASMSU on the development of the honor code and supports adherence to the code and promotion of the code in appropriate University publications.

Trustee Byrum recognized ASMSU President Domonique Clemons, who read the following statement:

“This year ASMSU has taken a strong position leading efforts towards a cultural change against academic dishonesty in our campus community. We as students believe that first, to address the issue, student leaders need to take a stand with their peers on the importance of holding each other accountable to high integrity and ethical ownership in research, writing, and examinations. As a result, ASMSU has adopted The Spartan Code of Honor, an academic pledge to do just that. We now have the commitment to move forward on an educational campaign informing each other on proper academic ownership and personal best in all we do. I am excited to see the reactions from the five hundred thousand plus Spartan Alumni towards the student leadership, recognizing that the MSU community was built on a history of strong values and ethics in work, academia, and the need to continue on this path for several years to come.”

10. Audit Committee

Trustee Breslin presented the Trustee Audit Committee Report.

Trustee Breslin said that the Audit Committee met with Plante Moran and received a report on the scope of the annual audit. In addition, the Committee received an overview of MSU sponsored program audits from Director of Contract and Grant Administration, Dan Evon and Assistant Director Evonne Pedawi, which was very informative.

The Committee also received a report on risk mitigation, insurance, and liability costs from the Director of Risk Management and Insurance, Matt McCabe.

11. Trustee Comments

Trustee Ferguson noted the depth of academic excellence at MSU as shown by the GPA Award recipients and the student research presentations.

Trustee Woodard congratulated the GPA Award recipients and Trustee Perles. She thanked Director Granberry Russell for her work on the Diversity Report.

Trustee Mosallam congratulated the GPA Award recipients and recognized the graduating members of the Student Liaison Group: Brian Batayeh, Domonique Clemons, and Amanda Hohly-Seng.

Trustee Foster thanked Brian Batayeh, Domonique Clemons, and Amanda Hohly-Seng for their work, and congratulated all graduating students on their accomplishments. Trustee Foster also recognized the passing of former MSU President Gordon Guyer.

Trustee Byrum thanked John Bell, Martin Crimp, and Mary Noel for their service on the Faculty Liaison Group. She also spoke of the many accomplishments of MSU, including the academic success of students and consuming less energy.

Trustee Perles recognized the passing of former President Gordon Guyer and congratulated Tom Izzo.

Trustee Breslin congratulated Trustee Perles on his award and recognized Brian Batayeh, Domonique Clemons, and Amanda Hohly-Seng for their work. He also welcomed Dee Jordan to the Student Liaison Group. Trustee Breslin also acknowledged the great discussion that was held in the Audit Committee during its overview of MSU sponsored program audits.

Trustee Lyons paid his respects to former President Gordon Guyer and congratulated Trustee Perles.

12. Public Participation on Issues Not Germane to the Agenda.

A. AAAS Major/AAAS Program Concerns

Shelby Ray Pumphrey, a member of the Sankofa Graduate Student Union, addressed the need for support for the AAAS program. She urged the Board to support departmental status for African-American and African Studies, as well as Chicano and Latino Studies. Ms. Pumphrey spoke of the learning and teaching opportunities that creating these departments could provide for undergraduate and graduate students. She also described the many benefits that creating an AAAS department and major could provide, including exposing students to critical perspectives and giving them the tools to critically think about the worldviews and perspectives that they will encounter on campus. Ms. Pumphrey stated that creating this department and major would align with the value MSU places on diversity, and she implored the Board to support departmental status for AAAS and CLS.

B. Inclusivity on Campus

Evan Coleman, undergraduate student and Intercultural Aide in the residence halls, spoke of his desire to educate himself continually. He honored and congratulated past and present student activists who have fought for a more inclusive university. Mr. Coleman also recognized the efforts of administrators to create a more inclusive campus through measures such as the e-learning module, the anti-bias police unit, and the expanding dialogue on campus this year. Mr. Coleman expressed concerns about the validity of the members of the Board and the issues on which administrators chose to focus on.

Evan Stivers, MSU undergraduate student, spoke of the priorities of the University and of the Board, and stated that he does not believe that they are correctly aligned. Mr. Stivers also spoke of the need for interculturalism to be a part of the Capital Campaign, and of the need for a free-standing multicultural center on campus. Mr. Stivers stated his support for Liberate MSU's demands and actions.

Brian Batayeh, at-large student liaison to the Board and an Intercultural Aide in the residence halls, stated his support for Liberate MSU. He then thanked the Administration for its efforts

towards creating a more diverse and inclusive campus. Mr. Batayeh also expressed concerns about these measures, especially in regards to follow-up. Mr. Batayeh emphasized the non-episodic nature of diversity and inclusion work, and how there needs to be follow-up to this work. He asked the Board how students will be held accountable for incorporating the values of diversity and inclusion into their lives.

C. Chicano and Latino Studies

Maisie Rodriguez, undergraduate student, spoke about the lack of a Chicano and Latino Studies department and how this is depriving MSU students of a valuable learning opportunity. Ms. Rodriguez also spoke of the importance that a CLS department would have as the Latino population grows and that MSU could be a leader in the field. Ms. Rodriguez emphasized the benefit that a CLS department could have for MSU and its students.

14. Request to Adjourn

On a motion by Trustee Byrum, supported by Trustee Ferguson, **THE BOARD VOTED to adjourn** at 11:20 a.m.

Respectfully submitted,



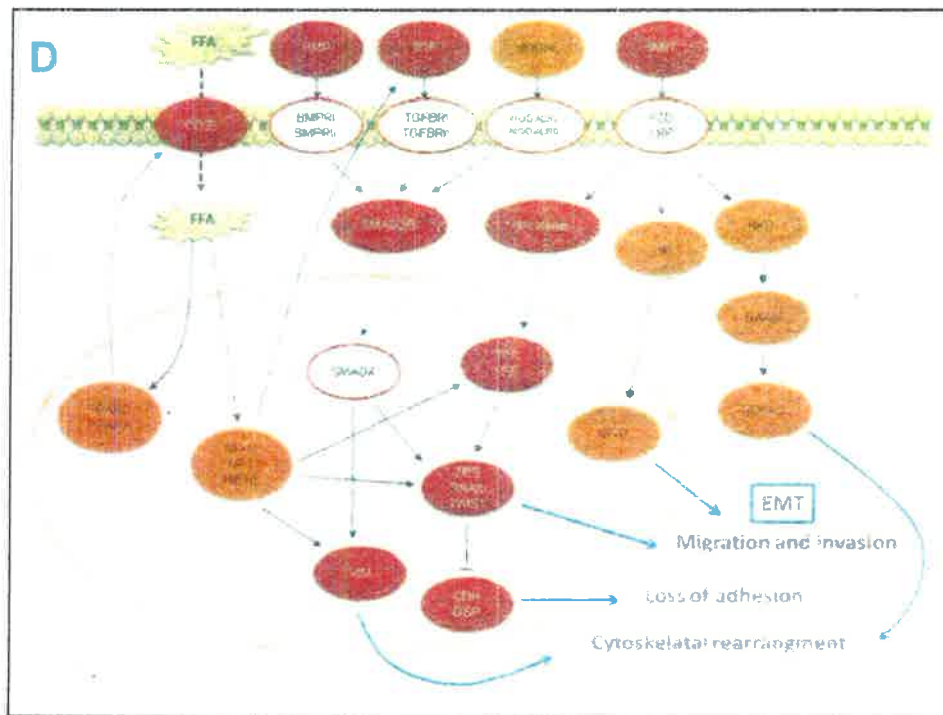
William R. Beekman
Vice President and Secretary of the Board of Trustees

Perspectives on Cancer



Irene Li
Michigan State University

Board of Trustees Meeting
April 15, 2016



SCIENTIFIC REPORTS

OPEN Elevated free fatty acid uptake via CD36 promotes epithelial-mesenchymal transition in hepatocellular carcinoma

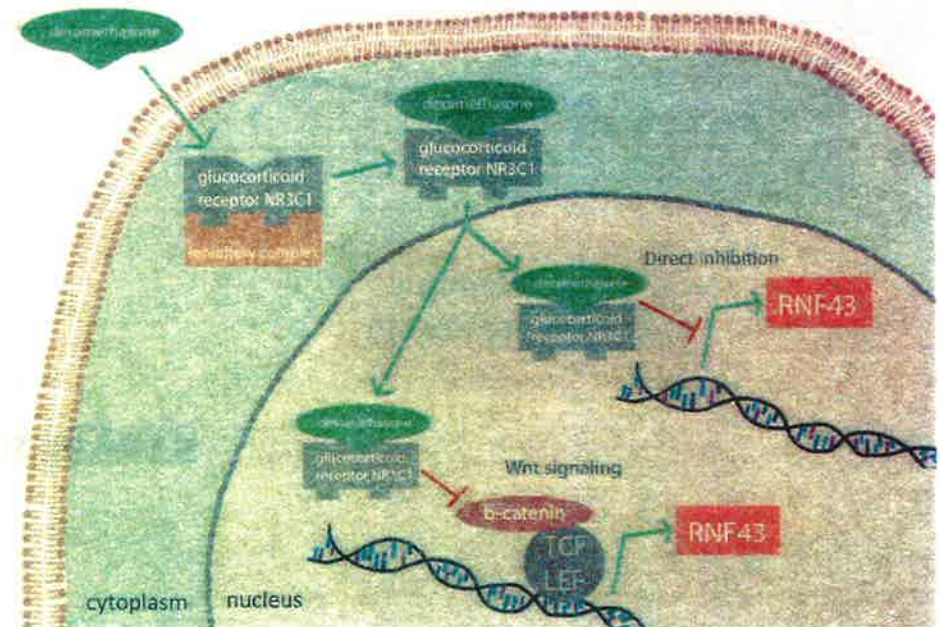
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Arbro Nath¹, Irene Li², Lewis R. Roberts³ & Christina Chen^{4,5*}



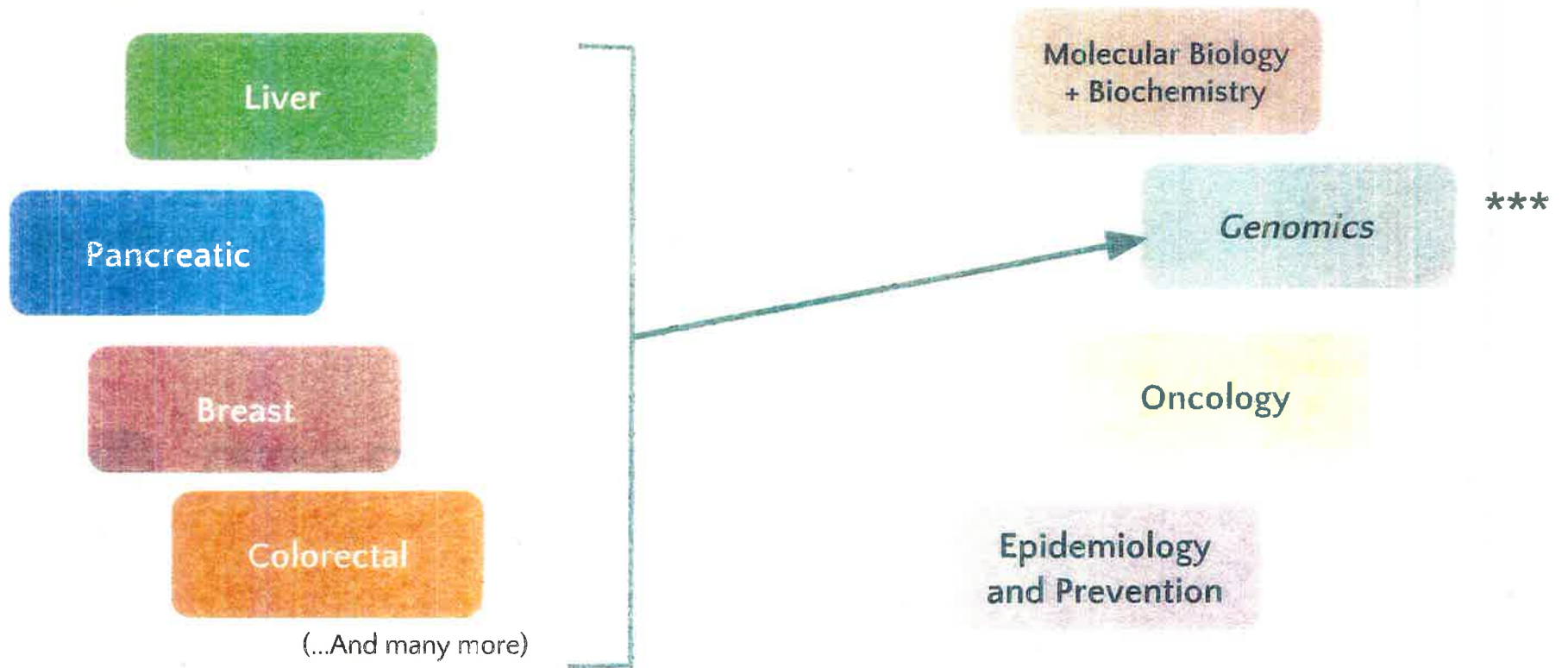
Lens 2: Colorectal Cancer Networks

Question: How are the oncogene RNF43 and the receptor NR3C1 related?





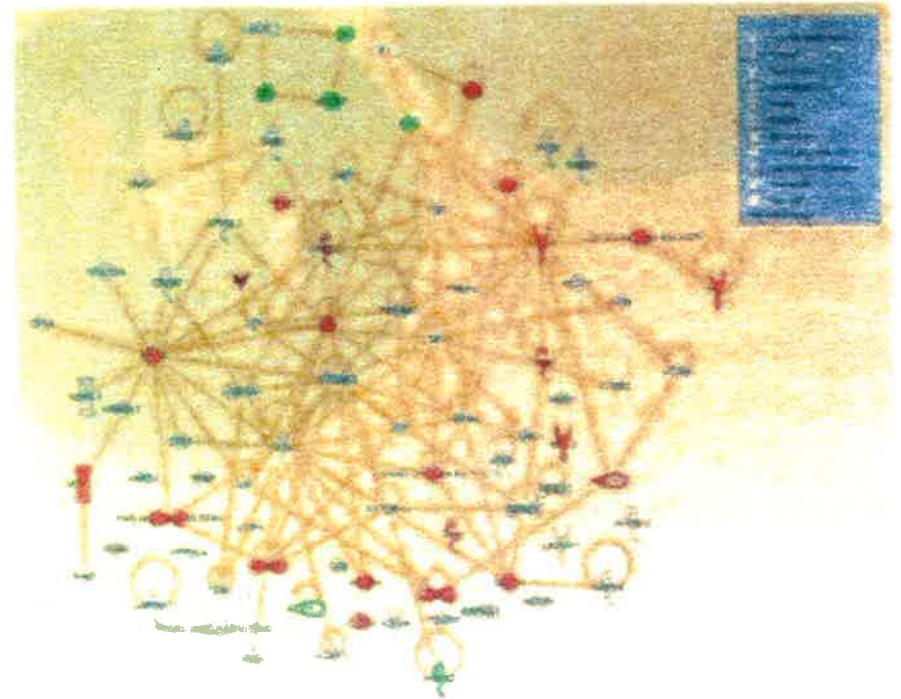
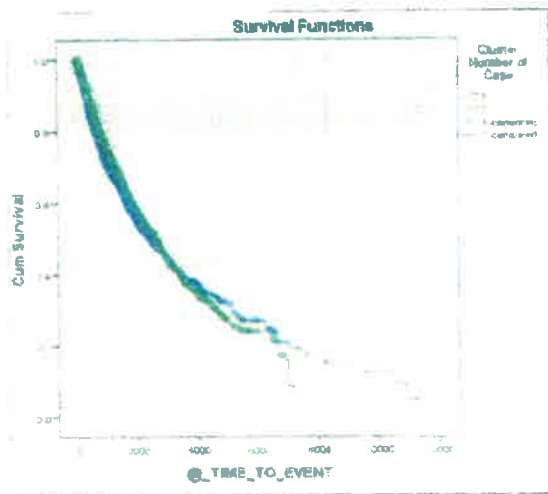
Harnessing multiple data layers





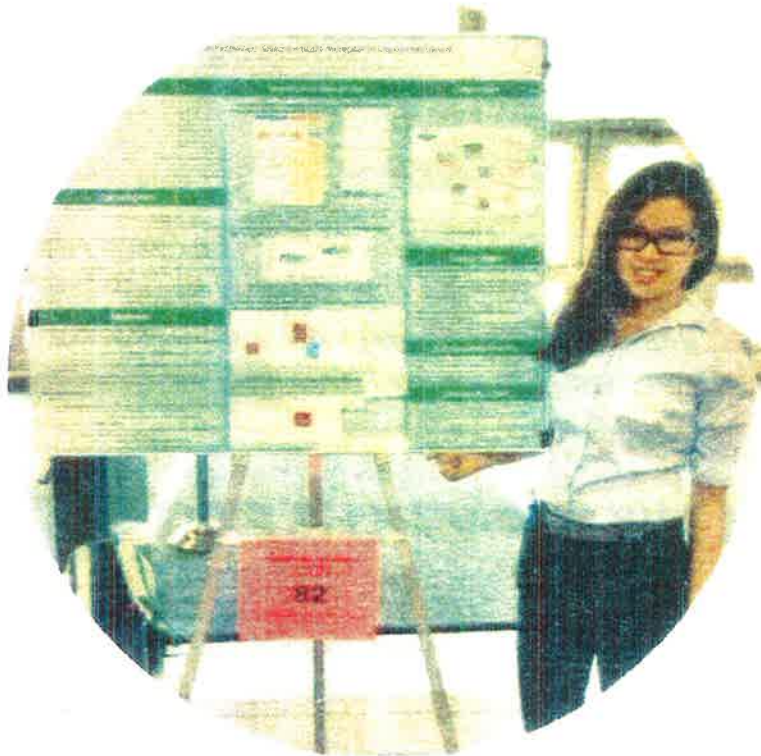
Lens 3: Genomics and Pan-Cancer Networks

Question (ongoing): How can we harness the vast amount of genomic data (sequencing, protein analysis, etc) to analyze and ask questions about cancer networks?



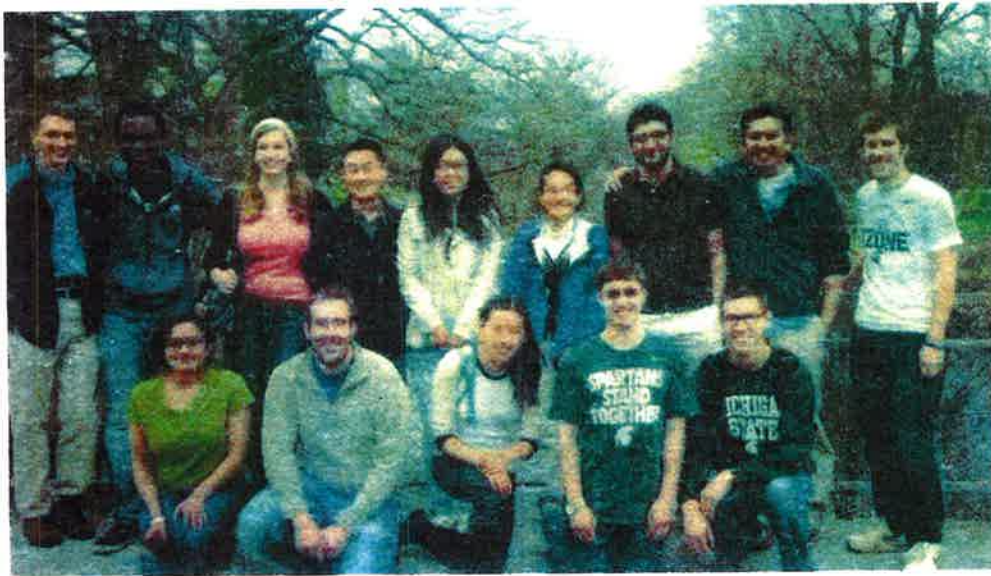


Presenting and Amplifying





Acknowledgements



- **Dr. Christina Chan**
- **Dr. Aritro Nath**
- Chan and Walton Lab
 - Dr. S. Patrick Walton
 - Phil Angart
 - Ryan Thompson
 - Amrita Oak
- American Association for Cancer Research
- Office of Undergraduate Research
- College of Natural Science Alumni Association + Dean's Research Scholar Program
- MSU Honors College
 - National + International Fellowships Office (NIFS)
 - Alumni Distinguished Scholarship



Thanks!

Any **questions** ?

You can find me at

- @xshuii
- liirene@msu.edu

Modifiable risk factors for Alzheimer's disease: Investigating obesity and neuropsychiatric symptoms in early cognitive impairment

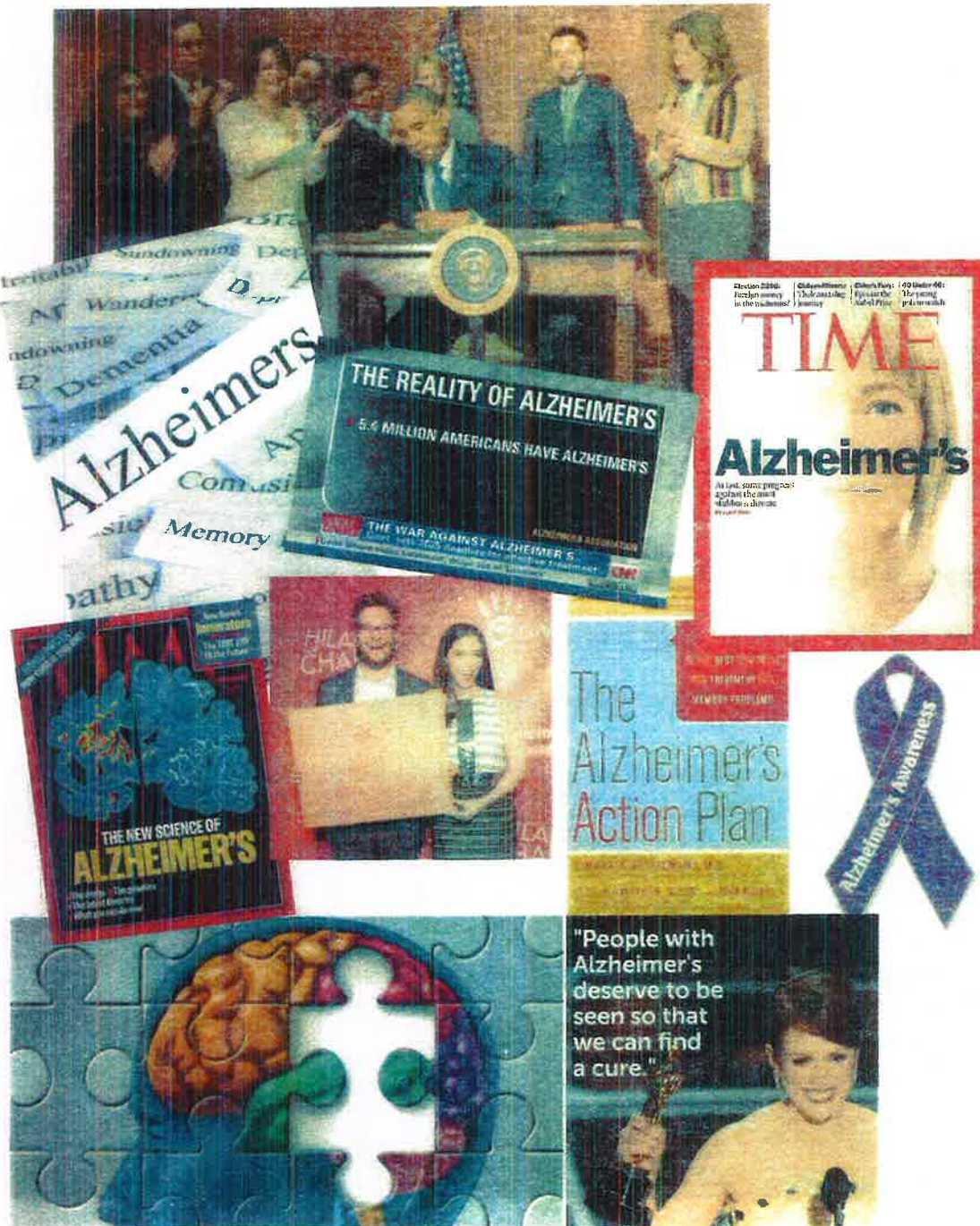
MSU Board of Trustees Meeting
April 15, 2016

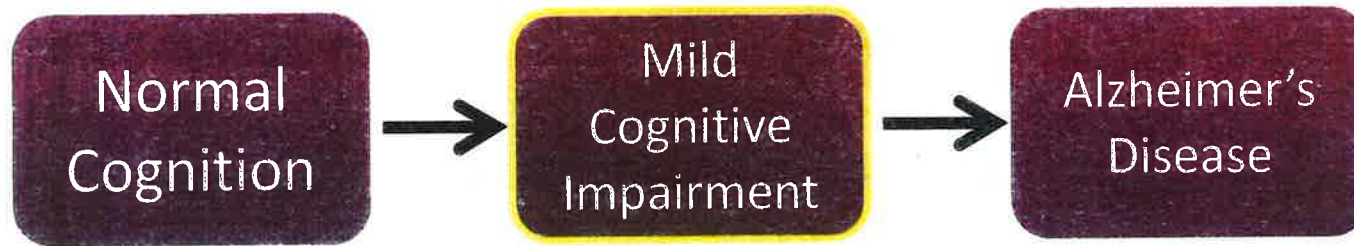
Ashley H. Sanderlin
PhD Candidate
Neuroscience Program
King-Chavez-Parks Fellow
Michigan State University
Hannahas@msu.edu



Alzheimer's Disease

- Affects over 5 M people in the US, most common type of dementia
- 6th leading cause of death in the U.S.
- Health care costs over \$100 Billion per year
- Terminal disease with no known cause, cure or effective treatment





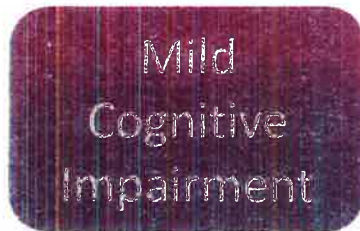
Mild Cognitive Impairment

- Cognitive Impairment in one or more domains such as memory, language or executive function
- Normal Activities of daily living
- No presence of dementia
- **High risk for the development of dementia, 50% convert over 5 years**

(Petersen, et al., 2002)



Dissertation Research Project



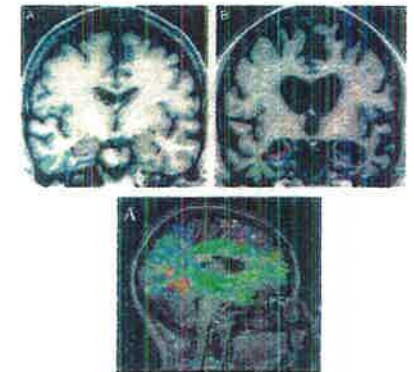
Factors:

- Weight (BMI)
- Behavioral changes

(i.e. Depression, anxiety, apathy, etc.)

Techniques:

- MSU CoGeNT Analysis:
 - Clinical and Neuropsychological Assessment
 - Neuroimaging – Brain atrophy, connectivity
- Large Database Analysis
 - Longitudinal outcomes



INVESTMENT POLICY

01-07-01

I. General Statement**APPENDIX C**

As stated in the Constitution of the State of Michigan and in the Bylaws of the Board of Trustees of Michigan State University (Board), the Board is responsible for the "control and direction of all expenditures from the institution's funds." In carrying out this responsibility with respect to the University's investments, the Board has established a framework for active, professional investment management. This policy states the responsibilities of the parties involved in carrying out the investment program.

The Board will establish an investment program for the investment of University funds for maximum return with an acceptable degree of risk. Within the context of its fiduciary responsibilities, the Board will exhibit social conscience in the administration of the University's investments.

All institutional funds available for long-term investment (generally at least five years), with the exception of funds limited by law or by special donor restrictions, will be consolidated into the Board's Common Investment Fund (CIF). (See Exhibit A for the CIF Statement of Investment Objectives.) All institutional cash except as otherwise required by contract or by another legal constraint, will be consolidated into the Board's Pooled Cash Fund for investment purposes. The Pooled Cash Fund shall consist of i) the Liquidity Pool (short and intermediate-term commercially available funds) and ii) the Liquidity Reserve Pool. (See Exhibit B for the Pooled Cash Fund Statement of Investment Objectives.) The CIF, Liquidity Pool, and Liquidity Reserve Pool may be referred to in this Policy as the University's investment portfolios.

II. Nature of Assets

Three distinct types of assets are covered by this policy:

1. Institutional Funds - Assets owned and held for long-term investment by the University, such as employee retirement funds and endowment funds, which include endowment trusts and funds functioning as endowments.
2. Annuity and Life Income Funds - Assets held for permanent investment by the University as trustee for the benefit of named beneficiaries, to revert to the University upon the demise of the last beneficiary or after a specified period of time, which should be invested to produce annual returns at least equal to contractually required payments to beneficiaries.
3. Institutional Cash - Cash being pooled and invested pending its intended use.

III. Role of Board of Trustees

The Board:

1. Shall, upon the recommendation of the Finance Committee and the President, approve (a) investment policies relating to the administration of its investment portfolios, including, but not limited to, investment objectives, which will include, but not be limited to, performance goals, strategic asset allocation, and risk budgets, (b) endowment spending

rates, and (c) institutional liquidity targets;

2. Shall approve the appointment of the Chief Investment Officer (CIO); and
3. Shall receive periodic reports on investment results through the Finance Committee and the CIO and, through the President, on the performance of the CIO.

IV. Role of Finance Committee

The Finance Committee:

1. Shall, in consultation with the Investment Advisory Subcommittee and the President, make recommendations to the Board about policies relating to the administration of the University's investment portfolios;
2. Shall, in consultation with the Investment Advisory Subcommittee, consult with the President regarding the annual performance review of the CIO; and
3. Shall receive periodic reports on the investment status of the portfolios from the CIO and shall transmit relevant information from such reports to the Board.

V. Role of the Investment Advisory Subcommittee

The Investment Advisory Subcommittee:

1. Shall advise the CIO in the review and evaluation of investment opportunities and strategies;
2. Shall provide knowledgeable, objective, and independent advice to the members of the Finance Committee and the CIO on investment policies and objectives, strategic investment planning and policy, investment opportunities, and such other matters as shall be determined by the Board;
3. Shall review policies recommended by the President relating to the administration of the University's investment portfolio and, when appropriate, shall advise the Finance Committee about such policies;
4. Shall, in consultation with the CIO, annually review the performance and investment objectives of the portfolios of Institutional Funds investments;
5. Shall, in consultation with the Vice President for Finance and Treasurer (VPFT), annually review the performance and investment objectives of the Pooled Cash Fund;
6. Shall advise the CIO concerning the investment consultant and investment managers for the Institutional Funds and advise the VPFT concerning the investment consultant and investment managers for the Pooled Cash Fund;
7. Shall usually meet with the CIO quarterly, but in no case less frequently than three times a year, to receive reports on the performance of the Institutional Funds, the investment consultant(s), and investment managers; and

8. Shall consult and advise the President regarding the appointment and performance evaluation of a CIO.

VI. Role of the President

The President:

1. Shall recommend to the Finance Committee, upon the recommendation of the CIO, investment policies relating to the administration of the CIF;
2. Shall recommend to the Finance Committee, upon the recommendation of the VPFT, investment policies relating to the administration of the Pooled Cash Fund;
3. Shall recommend to the Finance Committee, upon recommendation of the CIO, an appropriate strategy to meet the Board's long-term investment objectives, which will include, but not be limited to, performance goals, strategic asset allocation, and risk budgets for the Institutional Funds;
4. Shall recommend a CIO for appointment by the Board of Trustees and shall appoint an interim CIO when the position is vacant;
5. Shall assume supervisory responsibility for the CIO position, including, but not limited to:
 - a. developing, with advice from with the Investment Advisory Subcommittee and in consultation with Investment Consultant, CIO performance standards; and
 - b. conducting, with advice from the Finance Committee and Investment Advisory Subcommittee and in consultation with Investment Consultant, the CIO's performance evaluation.
6. Shall provide broad administrative oversight of the University's investment activities, including, but not limited to:
 - a. General oversight of the CIO's selection of Investment Consultants;
 - b. General oversight of the CIO's tactical asset allocation, rebalancing, and hedging within ranges and risk budgets established by the Board;
 - c. General oversight of the CIO's implementation of traditional asset class investment strategies, including investment manager selection;
 - d. General oversight and monitoring of the CIO's implementation of private equity and long-term illiquid asset class strategies, including investment manager selection (which selection shall require the approval of the VPFT);
 - e. General oversight and monitoring of CIF performance measurement and evaluation;
 - f. General oversight of the Pooled Cash Fund performance measurement and evaluation;
 - g. General oversight of the Pooled Cash Fund investment manager selection; and
 - h. General oversight of Investment Custodian selection.

VII. Role of the Chief Investment Officer

The Chief Investment Officer:

1. Shall develop and recommend to the President, through consultation with the Investment Advisory Subcommittee, investment policies relating to the administration of the Institutional Funds;
2. Shall develop and recommend to the President, through consultation with the Investment Advisory Subcommittee, an appropriate strategy to meet the Board's long-term investment objectives, which will include, but not be limited to, liquidity available for investments, performance goals, strategic asset allocation, and risk budgets, for Institutional Funds;
3. Shall, after considering advice from the Investment Advisory Subcommittee, President, and VPFT, be responsible for the selection, retention, and termination of the Investment Consultant(s);
4. Shall be responsible for tactical asset allocation, portfolio rebalancing, and hedging within ranges and risk budgets established by the Board;
5. Shall manage the day-to-day activities of the University's CIF investment portfolios within the broad guidelines established by the policies adopted by the Board;
6. Shall monitor capital markets and economic forecasts, and provide the Board and President with an ongoing analysis of the global economic situation as it relates to the University's investment policies and objectives;
7. Shall seek the advice of the Investment Consultant(s), Investment Advisory Subcommittee, and President on issues related to the management of the CIF investment portfolios;
8. With respect to traditional liquid asset classes:
 - a. Shall appoint new investment managers, make follow-on investments with existing managers, and have authority to allocate funds through use of a joint investment vehicle entity, such as a limited liability entity, and authority to take all actions and execute all documents in connection with the formation, management, operation, and dissolution of any such joint investment vehicle entity;
 - b. Shall approve the dollar value of assets allocated to new and existing investment managers and reallocate assets among such managers in accordance with long-term strategic targets;
 - c. Shall approve individual investment manager guidelines; and
 - d. Shall monitor individual investment managers on a regular basis to ensure that performance expectations are met.
9. With respect to private equity and long-term illiquid assets:
 - a. Shall consult with the VPFT on strategy implementation;
 - b. Shall, with the approval of the VPFT, appoint new investment managers, make follow-

- on investments with existing managers, and have authority to allocate funds through use of a joint investment vehicle entity, such as a limited liability entity, and authority to take all actions and execute all documents in connection with the formation, management, operation, and dissolution of any such joint investment vehicle entity;
- c. Shall, with approval of the VPFT, approve the dollar value of assets allocated to new and existing investment managers and reallocate assets among such managers in accordance with long-term strategic targets;
 - d. Shall, in consultation with the VPFT, approve individual investment manager guidelines; and
 - e. Shall monitor individual investment managers on a regular basis to ensure that performance expectations are met.
10. Shall consult with the IAS and have the discretion and authority to terminate CIF investment managers for reasons including, but not limited to, performance concerns, organizational changes, deviation from investment mandate, investment mandate is inconsistent with the current market environment, or restructuring of the relevant investment portfolio;
 11. Shall provide a monitoring and measurement program that will permit evaluation of the performance of the CIF portfolio, asset classes within the portfolio, and investment managers in comparison with applicable investment market benchmarks and with other managers;
 12. Shall report to the Investment Advisory Subcommittee, President, and VPFT on a periodic basis, but not less than quarterly, rebalancing transactions and all new financial commitments to private investments completed during the quarter, and shall provide quarterly reports to the President and Investment Advisory Subcommittee showing potential rebalancing transactions that are likely to occur over the ensuing quarter;
 13. Shall report monthly to the Investment Advisory Subcommittee, the President, and VPFT any market value decline of 10 percent or greater in the value of the CIF;
 14. Shall report quarterly to the Investment Advisory Subcommittee, the President, and the VPFT any market value decline with respect to an investment manager that is in excess of two standard deviations of the long-term volatility of the applicable benchmark listed in Exhibit A;
 15. Shall continuously monitor and review each investment consultant's reports, the actions of the investment managers, and the status of the University's investment portfolios; and
 16. Shall maintain communications, as appropriate, among the Board, the Finance Committee, the Investment Advisory Subcommittee, the investment consultant(s), and the investment managers.

VIII. Role of the Vice President for Finance and Treasurer

The Vice President for Finance and Treasurer:

1. Shall advise the President and CIO on investment policies relating to the CIF and Pooled

Cash Fund;

2. Shall develop and recommend to the President, through consultation with the Investment Advisory Subcommittee, investment policies relating to the administration of the Board's Pooled Cash Fund;
3. Shall consult with the CIO with respect to private equity and long-term illiquid strategy and asset commitments and shall approve, in conjunction with the CIO, new private equity and long-term illiquid investment managers and make follow-on investments with existing managers;
4. Shall have the authority to appoint the investment custodians for the CIF and Pooled Cash Fund;
5. Shall have the authority to appoint, or may act in the role of, an investment manager for the Pooled Cash Fund and shall report any such appointments to the Finance Committee, the Investment Advisory Subcommittee, and the Board;
6. Shall consult with the IAS and have the discretion and authority to terminate Pooled Cash Fund investment managers for reasons including, but not limited to, performance concerns, organizational changes, deviation from investment mandate, investment mandate is inconsistent with the current market environment, or restructuring of the relevant investment portfolio;
7. Shall provide a monitoring and measurement program that will permit evaluation of the performance of the Liquidity Reserve Pool and investment managers in comparison with applicable investment market benchmarks and with other managers; and
8. Shall provide a monitoring and measurement program that will permit evaluation of the performance of the Liquidity Pool and investment managers in comparison with applicable investment market benchmarks and with other managers.

IX. Role of Investment Consultants

An Investment Consultant:

1. Shall provide advice and consultation to the CIO in the areas of policy development, asset allocation, investment structure and analysis, investment manager selection, risk parameters, and investment performance review with respect to the CIF;
2. Shall provide advice and consultation to the VPFT in the areas of policy development, asset allocation, investment structure and analysis, investment manager selection, investment custodian selection, risk parameters, and investment performance review with respect to the Pooled Cash Fund, and regarding endowment spending rates;
3. Shall provide, as requested by the President, advice and consultation in developing CIO performance standards and evaluations; and
4. Shall provide such other information pertaining to the Board's investment program as may reasonably be required and shall report immediately to the CIO any major change in its confidence regarding the investments, investment managers, sector, or securities markets

for which it is providing advice to the University.

X. Role of the Investment Managers

Each investment manager:

1. Shall report at least quarterly to the CIO and/or VPFT, as applicable, on its performance and other appropriate matters;
2. Is authorized to execute investment transactions within its established guidelines, subject to any restrictions established by the Board and/or CIO and/or VPFT as applicable;
3. Shall provide other necessary information for the development of interim reports and shall meet, as necessary, with the CIO and/or VPFT, as applicable; and
4. Shall vote all proxies in a manner most likely to preserve or enhance the value of the underlying investments and normally to support management on routine matters.

XI. Role of the Investment Custodians

Each investment custodian:

1. Shall hold all securities in an agreed-upon nominee name and form;
2. Shall execute all transactions as directed by the relevant investment manager;
3. Shall collect all income pertaining to the securities held, and shall temporarily invest such income in cash equivalents;
4. Shall periodically remit accumulated income to the University, for credit to the appropriate funds or trusts, pursuant to instructions received from the VPFT;
5. Shall provide the University with a full monthly accounting of all transactions, together with a listing of all holdings at cost and market; and
6. Shall provide such other information as may reasonably be required.

XII. Endowment Spending

1. In fulfillment of its fiduciary duties as trustee of the University's endowment and other Institutional Funds, the Board causes those Funds to be invested to generate amounts that may be expended for the purposes for which those Funds were established ("programmatically spending") and amounts that may be accumulated for reinvestment to preserve the value of those Funds, and their purchasing power, against inflation. These are the priorities for the use of the University's endowment and other Institutional Funds. The Board may also permit reasonable and appropriate costs to be charged to the endowment and other Institutional Funds. These charges may include reasonable and appropriate costs of administering and managing the Institutional Funds, such as reasonable and appropriate internal and external investment costs and, for certain Institutional Funds, fund-raising costs. Additional returns, if any, generated by the investment of the Institutional Funds may be used to add real principal growth to such

Funds, to better preserve their long-term value, to improve and further diversify the investment options for such Funds, and, thus, to enhance opportunities to stabilize and increase annual expenditure for such Funds.

2. In accordance with these precepts:

- a. (i) The University will make available for programmatic spending ~~5.04.8~~ percent of the average market value of the CIF as calculated for the 20 quarters of the five calendar years prior to the beginning of the fiscal year in which the spending is expected to occur, expressed as a dollar per unit annual distribution amount based on the number of units in the CIF at the time of the calculation for fiscal year 2017 and 4.6% for subsequent fiscal years. Programmatic spending distributions will be made to CIF unit holders on a periodic basis during the fiscal year based on the number of units in the CIF held when each periodic programmatic spending distribution is made.¹ The VPFT will determine when the periodic programmatic spending distributions will occur.
- (ii) This programmatic spending rate shall be approved annually by Board, upon the recommendation of the Finance Committee, in consultation with the Investment Advisory Subcommittee and President. The VPFT shall develop, in consultation with the CIO and Investment Consultant(s), and recommend to the President the programmatic spending rate. In connection with each of these reviews, the University's investment staff shall present an analysis of the projected impact of inflation on the University's endowment and other Institutional Funds, including how inflation is expected to affect their purchasing power (i.e., the expenditures of amounts for the purposes for which those funds were established).
- b. Reasonable and appropriate internal and external investment costs for the CIF, including the costs of the investment consultant, the investment managers, and the investment custodians and the University's own investment management costs (staff and support), shall be deducted in determining the average market value of the CIF available for programmatic spending pursuant to Section XII (2)(a)(i) of this policy.
- c. The President, in consultation with the CIO and the VPFT, is authorized to establish annual assessments for endowment stewardship, including fund raising, against those of the University's endowment and other Institutional Funds established entirely or primarily with private donations. The amount of the assessments must be reasonable and appropriate, particularly when considered in the context of the University's priorities for the use of its endowment and other Institutional Funds. In any event, the amount assessed may not, without further Board action, exceed 1 percent of the average market value of the CIF units held by such Funds. The calculation of the amount assessed and its allocation to the Funds subject to assessment shall be conceptually consistent with the

¹ The per unit annual distribution amount will be allocated evenly over the periodic programmatic spending distributions during the fiscal year. The amount of the periodic programmatic spending distributions will not be reduced if the number of units in the CIF increases between when the per unit annual distribution amount is calculated and when the periodic programmatic spending distributions occur.

methodology by which programmatic spending distributions are calculated and allocated under Section XII (2)(a)(i) of this policy. Assessments will be made periodically during the fiscal year, as jointly determined by the CIO and VPFT. Not less than 30 days prior to the annual review of the programmatic spending rate pursuant to Section XII (2)(a)(ii) of this policy, the President and the VPFT shall provide a written report to the Finance Committee and other members of the Board stating the amount, if any, of the assessment for the following fiscal year and how it was determined.

3. If the University has accepted a gift to an endowment fund documented by a gift instrument in which the donor gives legally binding instructions for the investment of, or expenditures from, that fund which are inconsistent with the foregoing, the University will comply with those special instructions. The VPFT shall calculate the annual programmatic spending distribution and assessment for each endowment fund which is not invested in the CIF in accordance with applicable law and report the programmatic spending rate and assessment amount for each such fund to the Finance Committee. Insofar as possible, given each such fund's investments and the instructions of its donor, the priorities for the use of such funds should be the same as those for endowment funds invested in the CIF.

Enacted: 1/26/79

Amended: 4/15/83, 6/8/84, 2/6/87, 10/14/88, 12/6/91, 4/10/98, 9/22/00, 6/5/03, 5/7/04, 11/12/04, 5/18/07, 12/05/08, 4/24/09, 4/16/10, 9/17/10, 12/10/10, 10/21/11, 12/14/12, 1/25/13, 4/12/13, 6/21/13, 9/11/15; 12/18/15; 4/15/16

Statement of Investment Objectives

Exhibit A: Michigan State University's Common Investment Fund

INTRODUCTION

This statement defines the investment objectives of Michigan State University's Common Investment Fund ("CIF"), which is composed primarily of the University's endowment funds. While other Institutional Funds (e.g., the Retirement Fund) may use the CIF as an investment vehicle, the separate statements of investment objectives for these funds shall govern their investment if their investment objectives are materially different from those of the endowment funds.

INVESTMENT OBJECTIVES

The investment objectives of the CIF are:

1. to achieve a total rate of return sufficient to generate the amount annually made available for spending² by the University's programs supported by endowment funds and still provide a modest increase in the inflation-adjusted unit value, and
2. to achieve the desired return while assuming only moderate risk.

The University will seek to achieve these investment objectives by diversifying across major asset classes (e.g., marketable equities, private investments, hedge funds, fixed income) as well as within each asset class (e.g., by investment style, capitalization, industry).

SHORT-TERM PERFORMANCE GOALS

Short-term performance goals for the CIF and for individual managers will be to outperform appropriate market and peer benchmarks over rolling three and five-year periods. Furthermore, adherence to the investment style for which individual managers were selected will be monitored. Private investments will be expected to outperform their respective median vintage year benchmarks.

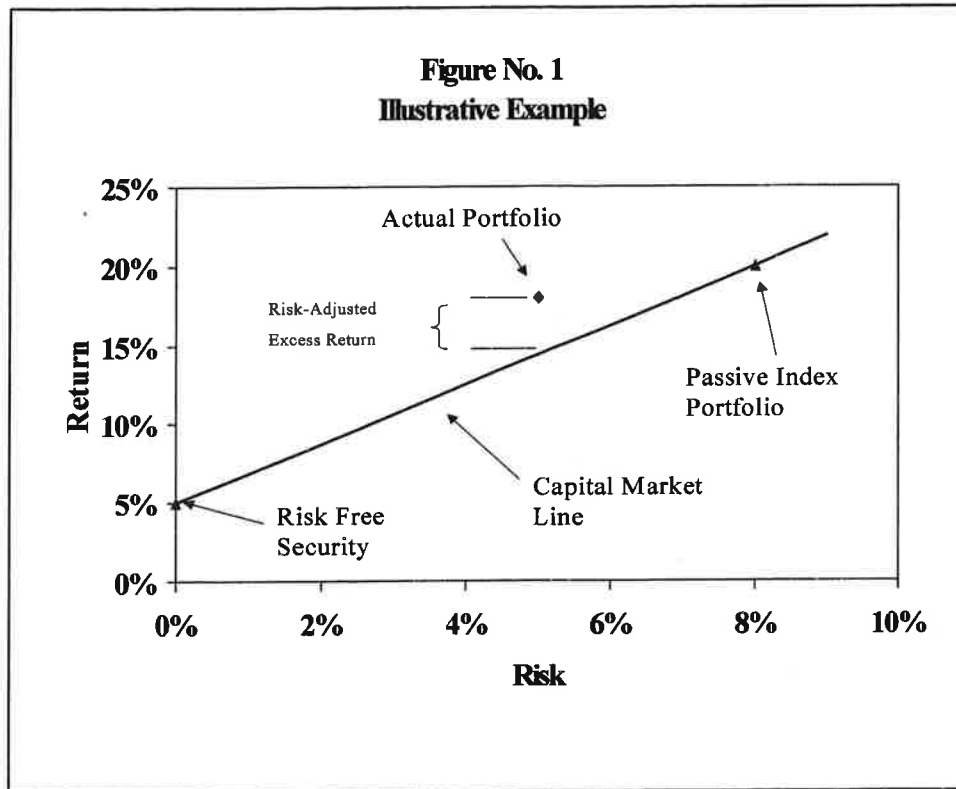
LONG-TERM PERFORMANCE GOALS

The following long-term performance goals of the CIF are expected to be achieved over rolling ten-year periods:

1. A total annual return greater than the rate of inflation plus 6.0%, after fees and expenses.
2. To the extent an actively managed strategy is used, a risk-adjusted, excess annual return greater than 1.0%, after fees and expenses. Risk-adjusted, excess return is defined as a portfolio's actual return over and above that of the benchmark portfolio as predicted by the Capital Asset Pricing Model. (See Figure No. 1.) The Jensen measure is used to calculate the risk-adjusted return.

² The current endowment spending policy authorizes the University to make available 5.0% of the average market value of the endowment as calculated for the twenty quarters of the five calendar years prior to the beginning of the fiscal year in which the spending is expected to occur.

**Figure No. 1
Illustrative Example**



The passive index portfolio will be composed of benchmark indices, for which passive index funds exist, and weighted to reflect the CIF's asset allocation. It should be noted, however, for private investments for which passive index funds do not exist, well-established indices corresponding to marketable securities will be used.

Table No. 1 lists the benchmark indices and long-term performance goals for each major asset class. The long-term performance goal for each individual manager will be based on the asset class and investment style for which the manager was selected.

Table No. 1 Benchmarks & Long-Term Performance Goals		
Major Asset Class	Benchmark	Long-Term Performance Goals
U.S. Equity	Russell 3000	If passive, benchmark. If active, risk-adjusted excess return of 1.0% after fees
Developed Global ex U.S. Equity	MSCI EAFE	If passive, benchmark. If active, risk-adjusted excess return of 1.0% after fees
Emerging Markets Equity	MSCI Emerging Markets	If passive, benchmark. If active, risk-adjusted excess return of 1.0% after fees

Marketable Real Estate	FTSE NAREIT Equity Index	If passive, benchmark. If active, risk-adjusted excess return of 1.0% after fees
Other Marketable Real Assets	Real Asset Blended Benchmark (67% MSCI U.S. Natural Resources // 33% S&P GSCI)	If passive, benchmark. If active, risk-adjusted excess return of 1.0% after fees
Private Real Estate and Real Assets	Vintage year median IRR for asset class	Meet or exceed benchmark
Private Investments	Vintage year median IRR for asset class	Meet or exceed benchmark
Hedge Funds	HFRI Fund of Funds Diversified Index	Meet or exceed benchmark
Fixed Income	Barclays Aggregate	If passive, benchmark. If active, risk-adjusted excess return of 0.50% after fees

ASSET ALLOCATION

Table No. 2 sets forth the policy targets and ranges for each major asset class:

Major Asset Class*	Target	Range	Rationale*
U.S. Equity	16.0%	11.0% - 27.0%	Maximize real returns
Developed Global ex U.S. Equity	10.0%	8.0% - 20.0%	Maximize real returns & diversification
Emerging Markets Equity	8.0%	4.0% - 12.0%	Maximize real returns & diversification
Real Estate	2.5%	1.0% - 5.0%	Real Asset & diversification
Other Real Assets	7.5%	5.0% - 12.0%	Real Asset & diversification
Private Investments	26.0%	12.0% - 32.0%	Higher returns than equities & diversification
Hedge Funds	22.0%	17.0% - 30.0%	Low volatility & moderate correlation with equities
Fixed Income	8.0%	3.0% - 17.0%	Deflation hedge & diversification

* See detailed descriptions of each asset class listed below.

U.S. Equity. This asset class consists of marketable equity securities of primarily U.S.-based companies. Managers may hold equity securities of non-U.S.-based companies which are traded as American depository receipts ("ADR's") on U.S. stock exchanges. Equity investments historically have provided investors with (1) a real return of about 7% subject to potential price volatility and (2) secondarily may hedge against inflation over longer time periods. Several sub-categories of this asset class include: large capitalization companies, small capitalization companies, value-style investing and growth-style investing. While the

benchmark for this entire class is the Russell 3000 Index, individual managers may have specific benchmarks corresponding to their investment style and capitalization category.

Developed Global ex U.S. Equity. This asset class consists of marketable equity securities in developed countries outside the U.S. It is intended to provide long-term performance and volatility similar to U.S. equities, but will provide some diversification due to imperfect correlation. This class will be diversified geographically.

Emerging Markets Equity. This asset class consists of marketable equity securities in emerging markets. It is intended to provide long-term performance and volatility similar to or slightly higher than U.S. equities, and will provide some diversification due to imperfect correlation. This class will be diversified geographically.

Real Estate. The University will seek to reduce the volatility of the CIF and provide a hedge against sudden, unanticipated inflation by investing a portion of its available funds in both public and private real estate. Risks related to the real estate investments will be minimized by diversifying through use of real estate investment pools or partnerships that are varied as to property type, location, investment life cycle and investment manager. This core real estate portfolio may be supplemented with less diversified specialty funds or direct investments.

Other Real Assets. The University will seek to reduce the volatility of the CIF and provide a hedge against sudden, unanticipated inflation by investing a portion of its available funds in both public and private natural resource investments, such as oil, gas, timber and minerals oriented investments. Risks related to natural resource investments will be controlled by diversifying among operators and acquisition prospects and by geography. This core real asset portfolio may be supplemented with less diversified specialty funds or direct investments.

Private Investments. The University will seek to enhance the total return of the CIF by investing a portion of its funds in private investments, which include distressed, private equity and venture capital investments. These investments are illiquid and higher risk/return assets than marketable securities. Risk will be controlled by diversifying across a number of fund managers and by geographic focus, industry emphasis, financing stage and vintage year. This core private investments portfolio may be supplemented with less diversified specialty funds or direct investments.

Hedge Funds. The University will seek equity-like returns while reducing the volatility of the CIF. The University will consider funds with a diversifier mandate (lower expected volatility and lower correlation to broad market trends) as well as funds with a growth oriented mandate (higher expected volatility and higher correlation to broad market trends). Managers with either type of mandate will employ risk management techniques intended to reduce downside potential, to a degree considered appropriate for their respective strategy. Managers employing "long/short" strategies invest primarily in equities and mitigate market risk by purchasing equity shares that are expected to appreciate in value and selling short equity shares that are expected to decline in value. Managers employing event-driven and arbitrage strategies seek to maximize returns by investing in publicly announced corporate transactions, such as mergers, tender offers, liquidations, bankruptcies and reorganizations or in arbitraging temporary discrepancies in securities pricing in the equity and fixed income markets. Distressed security managers invest primarily in bonds and bank loans trading at a significant discount to par value as a result of the debtor's troubled financial condition.

Fixed Income. This asset class is intended to reduce the portfolio's exposure to market risk and provide a hedge against sudden, unanticipated deflation. Foreign currency bonds may be held to enhance total return and provide diversification.

INVESTMENT GUIDELINES

- 1) Investment guidelines are provided in Exhibit C.
- 2) Additional guidelines may be adopted by separate Board action. They will be communicated to the affected investment managers.

Updated: 10/14/88, 6/8/90, 12/6/91, 12/11/92, 3/31/94, 7/14/95, 11/8/96, 9/22/00, 6/5/03,
11/14/03, 11/12/04, 6/17/05, 2/10/06, 5/18/07, 12/5/08, 6/19/09, 9/17/10, 10/21/11,
12/14/12, 4/12/13, 9/11/15, 12/18/15

Statement of Investment Objectives
Exhibit B: Michigan State University's Pooled Cash Fund

INTRODUCTION

This statement sets forth the investment objectives of Michigan State University's Pooled Cash Fund ("PCF"), which is a subset of the University's overall cash pool. (See Figure No. 1.)

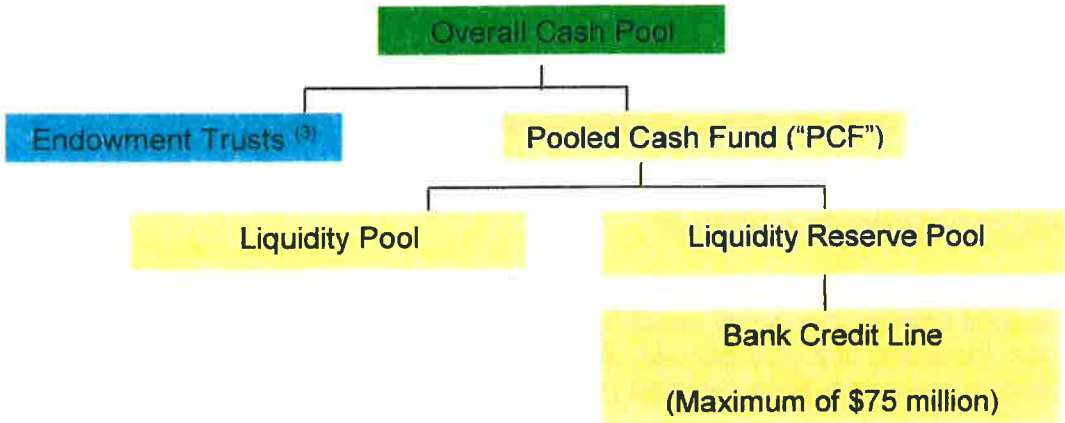
PCF ASSETS

The PCF has two components -- the Liquidity Pool and the Liquidity Reserve Pool. The Liquidity Pool shall be composed of short-term (less than one-year maturity) and intermediate-term (maximum ten-year maturity) commercially available funds (three-year maximum average portfolio duration). These funds shall be available on a daily basis. The target range for the Liquidity Pool shall be 30 - 60 days of operating cash ⁽¹⁾.

The Liquidity Reserve Pool shall be composed of commercially available funds (six-year maximum average portfolio duration) and up to a \$75 million bank line of credit or its equivalent. (See Figure No. 1.) The target amount for the Liquidity Reserve Pool shall be 30 days of operating cash. ⁽¹⁾⁽²⁾

The PCF minimum amount shall be the greater of (1) 45 days of operating cash or (2) the minimum daily liquidity to support five days of maximum commercial paper maturities.

Figure No. 1
Structure of MSU's Overall Cash Pool



- (1) One day of operating cash equals the daily average of operating expenses less depreciation as reported in MSU's Audited Financial Statements for the prior fiscal year.
- (2) See also footnote 1 to Table No. 1 in the event the University employs a bank line of credit in the Liquidity Reserve Pool.
- (3) Overall Cash Pool amounts in excess of 60 days of operating cash may be invested on a long-term basis with other Institutional Funds in the University's Common Investment Fund (CIF).
- (4) The PCF minimum amount shall be the greater of (1) 45 days of operating cash or (2) the minimum daily liquidity to support five days of maximum commercial paper maturities.

Table No. 1 summarizes the target allocations for each component of the PCF.

Table No. 1 PCF Composition		
	Target Allocation	
	Minimum Amount	Target Amount/Range
Liquidity Pool	The greater of (1) 45 days of operating cash or (2) the minimum daily liquidity to support 5 days of maximum commercial paper maturities	30-60 days of operating cash
Liquidity Reserve Pool		30 days of operating cash ⁽¹⁾

1. Up to \$75 million of this amount may be represented by a bank line of credit or its equivalent. Any Liquidity Reserve Pool target amount for which the bank line of credit would substitute would count towards satisfying the PCF minimum amount.

INVESTMENT OBJECTIVES

The investment objectives for each component of the PCF are:

Liquidity Pool. The primary objective is to provide a liquid source of funds to meet the University's daily cash requirements. A secondary objective is to yield a competitive investment return while bearing minimal principal risk.

Liquidity Reserve Pool. The primary objective is to provide a source of funds in the event the Liquidity Pool is insufficient to meet the University's cash needs. A secondary objective is to earn a higher investment return than the Liquidity Pool. Because of the very low likelihood that these funds would be needed to meet cash flow requirements, a greater degree of principal risk is acceptable in order to obtain a higher return.

SHORT-TERM PERFORMANCE GOALS

Short-term performance goals for each component of the PCF, and for individual managers, will be to outperform (if actively managed) net of fees appropriate market and peer benchmarks over rolling one, three and five-year periods. Furthermore, adherence to the investment style for which individual managers were selected will also be monitored.

LONG-TERM PERFORMANCE GOALS

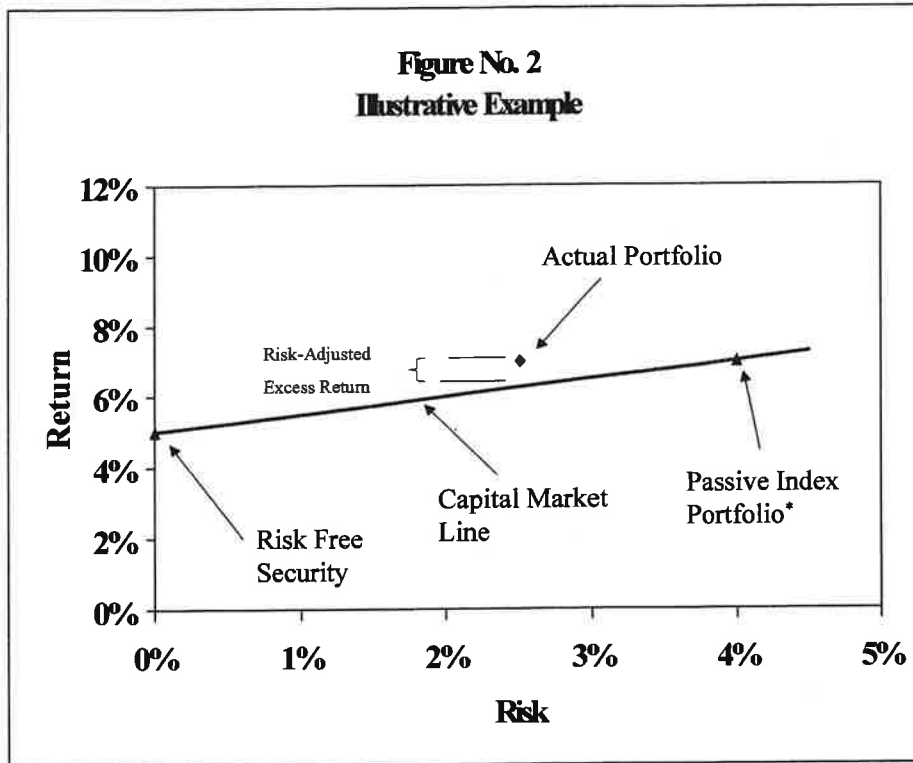
The following long-term performance goals of the PCF are expected to be achieved over a ten-year period, measured on a ten-year rolling basis.

- 1) A total annual return net of fees greater than the rate of inflation
 - a. plus 1.5% for the Liquidity Pool, and
 - b. plus 3.0% for the Liquidity Reserve Pool.
- 2) To the extent an actively managed strategy is used, a risk-adjusted, excess annual

return net of fees greater than

- a. 0.25% for the Liquidity Pool, and
- b. 0.50% for the Liquidity Reserve Pool.

Risk-adjusted, excess return is defined as a portfolio's actual return less the capital market line return corresponding to the same risk level. (See Figure No. 2.)



*The passive index portfolio would be the appropriate fixed income benchmark index.

Table No. 2 lists the benchmark indices and long-term performance goals for each PCF component. Similarly, the long-term performance goal for each individual manager will be for it to contribute a risk-adjusted return corresponding to its respective component of the PCF.

Table No. 2 Benchmarks & Long-Term Performance Goals		
PCF Component	Benchmark	Long-Term Performance Goals
Liquidity Pool	Merrill Lynch 1-3 year Treasury Index	If passive, benchmark. If active, risk-adjusted excess return of 0.25% after fees
Liquidity Reserve Pool	Barclays Aggregate	If passive, benchmark. If active, risk-adjusted excess return of 0.50% after fees

INVESTMENT GUIDELINES

- 1) Liquidity Pool - Investment guidelines are provided in Exhibit C.
- 2) Liquidity Reserve Pool – Investment guidelines are provided in Exhibit C.
- 3) Additional guidelines may be adopted by separate Board action. They will be communicated to the affected investment managers.

Updated: 6/24/83, 2/3/89, 2/7/92, 6/10/94, 10/24/97, 12/8/00, 11/12/04, 12/5/08, 4/16/10,
12/14/12, 6/21/13

**Statement of Investment Objectives
Exhibit C: Investment Guidelines**

<u>Liquidity Pool</u>		<u>Liquidity Reserve Pool</u>		<u>Common Investment Fund</u>	
Separately Managed Funds					
Permitted Securities					
<p>Marketable fixed income securities such as: U.S. government and agency issues; corporate debt; certificates of deposit; time deposits; repurchase and reverse repurchase agreements; mortgage-backed; asset-backed; securities issued under Rule 144A; dollar denominated U.S. and foreign issuers; derivatives for hedging purposes and creating portfolio risk profiles that could otherwise have been achieved using fixed income instruments authorized in these guidelines; commingled and global funds that invest in securities authorized in these guidelines.</p>		<p>Marketable fixed income securities such as: U.S. government and agency issues; U.S and non-U.S. corporate debt; certificates of deposit; time deposits; repurchase and reverse repurchase agreements; inflation indexed bonds; mortgage-backed; asset-backed; securities issued under Rule 144A; obligations of state and local governments and non-U.S. government and agency issues; derivatives for hedging purposes and creating risk portfolio profiles that could otherwise have been achieved using fixed income instruments authorized in these guidelines.</p>		<p>Marketable securities. Non-marketable securities may be held in the Real Assets , Private Investments and Absolute Return asset classes.</p>	
Diversification:					
<p>No more than 15% of the portfolio's market value may be invested in dollar denominated foreign securities of developed countries. No more than 10% of the portfolio's market value will be invested in securities of any single issuer, except those which are obligations of, or fully guaranteed as to both principal and interest by, the U.S. government or its agencies.</p>		<p>No more than 10% of the portfolio's market value may be invested in securities below BBB. No more than 30% of the portfolio's market value may be invested in securities denominated in foreign currencies. No more than 10% of the portfolio's market value will be invested in securities of any single issuer, except those which are obligations of, or fully guaranteed as to both principal and interest by, the U.S. government or its agencies.</p>		<p>In accordance with asset allocation guidelines.</p> <p>Individual investment managers' guidelines at time of manager appointment or as later amended by agreement of both parties.</p>	
Fixed Income:					
Minimum Quality:					
Portfolio:					
AA		AA		AA	
Security (at purchase):					
Short-term		Long-term		Short-term	
A1/P1		BBB		A2/P2	
				Long-term	
				BB	
Maturity/Duration:					
10 year maximum maturity of any security.		No maximum maturity of any security.		No maximum maturity of any security.	
3 year maximum average duration of the portfolio.		6 year maximum average duration of the portfolio.		6 year maximum average duration of the portfolio.	

Commingled Funds: Funds' investment guidelines at time of manager appointment or as later amended prevail.

**Statement of Investment Objectives
Exhibit C: Investment Guidelines
Continued**

Updated: 11/12/04, 5/18/07, 4/16/10, 10/21/11, 9/11/15, 12/18/15

Proposed Amendments to the University *Bylaws for Academic Governance*: Rationale

The primary major academic unit, “National Superconducting Cyclotron Laboratory (NSCL)” is amended to “Facility for Rare Isotope Beams (FRIB)” at 1.1.1.4, 1.1.2.1–2, 1.1.2.4, 2.1.2, and 3.2.1.1.2.

Changes in Associated Students of Michigan State University (ASMSU) or Council of Graduate Students (COGS) bylaws or procedures result in amendments or deletions at 1.2.2.2, 3.2.1.1.3–4, 3.2.3.2–3, 3.2.4, 3.2.4.2, 3.2.4.2.1, 3.5.4, 3.5.4.1–4, 3.5.5, and 4.3.2.2.

The clarification and streamlining of governance functions, where confusions have arisen in recent years or to comply with existing procedures, motivate the following amendments:

- *at University level*: 1.4–1.4.3 (including consequent redundancies in 3.2.1, 3.3.1.2.1, 3.3.1.5, 3.4.1.3, 3.4.2.2, 4.2.4.1, 4.3.1, 4.4.1, 4.5.1, 4.6.1, 4.7.1, 4.8.1, 4.9.1, and 5.2.2.2), 3.1.2.2, 3.2.1, 3.2.1.1, 3.2.1.1.1, 3.2.3, 3.2.3.1, 3.2.7.2, 3.3.1.2.1–2, 3.3.1.3, 3.3.2.1, 3.3.3, 3.4.1.3–4, and 3.4.2.3.
- *in units*: 2.1.2.1–2 and 2.2.5.1.
- *in University-level standing committees*: 4.1, 4.1.1, 4.2.1.4, 4.2.4.5, 4.3.1–2, 4.3.6, 4.3.8, 5.3.1m 5.3.2.2, 5.3.3.1–3, and 5.3.4.2.

Prior Board of Trustees policy approvals are integrated into the Bylaws at 4.6.7 and 4.7.7.

The elimination of the University Academic Appeals Board (formerly 6.4) and the establishment of boards to replace it prompt amendments to 6.3.2–4.

Amendments for greater precision of reference originally suggested by the Office of the General Counsel occur in the Preamble, 3.2.5.4, 3.2.5.8 and in the conventions of abbreviation adopted throughout the Bylaws and not itemized—including conformity with the adoption of Student Rights and Responsibilities at Michigan State University (SRR)—notably, 2.2.7, 3.2.8, 3.2.9.1, 3.3.4.10, 4.9.4, 4.9.5, 5.1.1, 6.1.1, 6.3.1, and 6.5.1.

Where administrative titles have changed, amendments appear at 3.2.1.1.5, 3.2.2.3, and 3.2.5.8.1.

Amendments aimed at improving communication within and among the various governance bodies are 3.2.7.6, 4.2.2.2–3, 4.2.4.2–4.

[PREAMBLE] Under its bylaws and ~~The Constitution of the State of~~ Michigan's Constitution, ~~confers on~~ the Board of Trustees has the responsibility to develop a free and distinguished university and to promote the welfare of mankind through teaching, research, and public service.

1.1.1.4. The **Facility for Rare Isotope Beams**/National Superconducting Cyclotron Laboratory (**FRIB**/NSCL) faculty shall consist of all faculty appointed in the **FRIB**/NSCL Faculty Appointment System holding the rank of professor, associate professor, or assistant professor.

1.1.2.1. The voting faculty in the election of University-level councils and committees shall be all regular faculty, health professions faculty, and **FRIB**/NSCL faculty. Voting faculty also includes full-time fixed-term faculty who have served at least three consecutive years and who are engaged in the academic activities of the university.

1.1.2.2. The voting faculty in the election of department, school, or college councils and committees and in elections pertaining to department, school, or college policies and decisions shall include all regular faculty engaged in the academic activities of that unit and may, if so provided by unit bylaws, also include health professions faculty, **FRIB**/NSCL faculty, fixed-term faculty, honorary faculty, specialists, lecturers, research associates, assistant instructors, ~~and~~/or adjunct faculty.

1.1.2.4. A regular faculty member, health professions faculty member, or **FRIB**/NSCL faculty member may be elected to an academic governance body as a representative of any unit in which that faculty member holds faculty status.

~~1.2.2.2. The student constituency of a unit for the purpose of selecting student representatives from that unit to serve on higher unit committees shall be all students who have declared with the Registrar a major or major preference (in the case of lower division students) in an academic program in the unit.~~

1.4 SPECIAL RULES

1.4.1. Ex-officio membership. Except as limited or prohibited in these Bylaws, ex-officio members of governance bodies—those who serve on the body by virtue of an office held—have both voice and vote.

1.4.2. Designees. Except as limited or prohibited in these Bylaws, a designee may serve in the stead of a member of a governance body who is absent from a meeting. Such designees

must have the same eligibility and constituency as the replaced member, and shall have the same rights and privileges as the member replaced. The attendance record of a member who provides a designee shall be unaffected.

Note that implications of this amendment appear in 3.2.1, 3.3.1.2.1, 3.3.1.5, 3.4.1.3, 3.4.2.2, 4.2.4.1, 4.3.1, 4.4.1, 4.5.1, 4.6.1, 4.7.1, 4.8.1, 4.9.1, and 5.2.2.2; separate mention of designees will be deleted.

1.4.3. Absences and removal. Members who fail to attend two meetings in a semester, or three meetings in a single academic year, of a particular governance body designated in these Bylaws, and who also fail to provide designees in their absences, shall be removed from the governance body, reducing its quorum until the members are replaced by procedures specific to the bodies.

2.1.2. An academic administrator is a faculty member who has authority and responsibility delegated by the President and the Board of Trustees for the administration of a unit. Administrative officers of the major education and research ~~unit~~ **units** of the University shall be members of the regular faculty, health professions faculty, or **FRIB/NSCL National Superconducting Cyclotron Laboratory** faculty, except ~~D~~deans who shall be members of the regular faculty.

2.1.2.1. A department chairperson or school director serves as the chief representative of his or her department or school within the University. He or she is responsible for the unit's educational, research, and ~~outreach~~ **service** programs—including the **outreach components of all three**; ~~;~~ budgetary matters, academic facilities, and personnel matters, taking into account the advisory procedures of the unit. The chairperson or director has a special obligation to build a department or school strong in scholarship, teaching capacity, and ~~outreach~~ **service**.

2.1.2.2. The deans and directors of other academic units separately reporting to the Provost are responsible for educational, research, and ~~outreach~~ **service** programs of their units. This responsibility includes budgetary matters, academic facilities, and personnel matters in the unit, taking into account the advisory procedures of the unit.

2.2.5.1. Each College Advisory Committee shall **ensure that at least two of its members are members of the Faculty Senate, selecting—if necessary—**~~select~~ from among the college representatives to the University Council one person to serve as an ex-officio member, without vote, of the College Advisory Committee. **See 3.3.1.2.1.**

2.2.7. Unit academic governance shall have jurisdiction over other matters, as provided in other University policies and legislation, e.g., **Student Rights and Responsibilities** ~~Academic Freedom for Students~~ at Michigan State University, Graduate Student Rights and

Responsibilities, Medical Students Rights and Responsibilities, and the Faculty Grievance Policy Procedure.

Likewise, in sections 3.2.8, 3.2.9.1, 3.3.4.10, 4.9.4, 4.9.5, 5.1.1, 6.1.1, 6.3.1, (6.4.1,) 6.5.1 of the Bylaws, ~~Academic Freedom for Students~~ shall be amended to **Student Rights and Responsibilities**. The abbreviation **SRR** shall be included at its first mention in each section and then used throughout the section.

3.1.2.2. The Academic Congress shall also serve as a forum for the dissemination and exchange of ideas and information between the faculty and the administration. ~~No quorum is required for such meetings.~~

3.2.1. Composition of the University Council. ~~3.2.1.1.~~ The University Council shall be composed of the members of Faculty Senate, selected pursuant to 3.3.1, the Appointed Council, all faculty serving as Chairpersons of College Advisory Committees ~~(or their designees)~~, the Chairperson of **the** Athletic Council ~~(or the Chairperson's designee)~~, members of the Associated Students of Michigan State University (ASMSU) selected pursuant to 3.2.4.1, **[3.2.3.1]**, members of the Council of Graduate Students (COGS) selected pursuant to 3.2.4.2, **[3.2.3.2]**, Chairpersons of University-level Standing Committees, The Steering Committee, the President, the Provost, and designated ex-officio members in 3.2.1.1.5 **[3.2.1.2]**.

~~3.2.1.1.1. Members of the Faculty Senate, whose composition is described in 3.3.1, shall sit on the University Council.~~

~~3.2.1.1.2.~~ **[3.2.1.1]** The Appointed Council shall be composed of all Deans, the Director of Libraries, the Director of the **FRIB NSCL**, the President, and the Provost.

~~3.2.1.1.3. ASMSU shall be composed of representatives selected pursuant to the constitution of ASMSU.~~

~~3.2.1.1.4. COGS shall be composed of students selected pursuant to the constitution of COGS.~~

~~3.2.1.1.5.~~ **[3.2.1.2]** The University Council shall have the following ex-officio members: Vice President for Student Affairs and Services; Vice President for Research and Graduate Studies; ~~Vice Provost for Libraries, Computing and Technology;~~ **Vice President for Information Technology; the associate provosts;** University Registrar; Athletic Council Chairperson; Faculty Grievance Official; Secretary for Academic Governance, and **Ombudsperson** ~~Ombudsman~~. One representative of the faculty emeriti will serve ex officio with voice, but no vote.

3.2.2.3. When both the Chairperson and the Vice Chairperson of the University Council cannot be in attendance at a meeting of University Council, the Chairperson will designate an individual, ~~typically the Senior Associate Provost,~~ to preside at that meeting.

3.2.3. **The** Voting Members of the University Council ~~3.2.3.1. The voting members of the University Council~~ shall be the faculty representatives elected as members of the Faculty Senate, ASMSU and COGS student representatives, designated members of University-level Standing Committees, voting members of The Steering Committee, and the members of the Appointed Council.

~~3.2.3.2. The voting members of ASMSU as determined by the constitution of ASMSU, shall serve on the University Council.~~

~~3.2.3.3. The voting members of COGS as determined by the constitution of COGS, shall serve on the University Council.~~

~~3.2.4. Student Representatives~~

~~3.2.4.2. [3.2.3.2.] Graduate Student Representatives:~~ COGS shall select a number of graduate representatives to the University Council equal to three-fiftieths (3/50) of the total voting membership of the body. The number of representatives shall be rounded to the nearest integer. No more than one graduate representative may be from a single department, with consideration being given to Universitywide representation insofar as possible.

3.2.4.2.1. **[3.2.3.2.1.]** Graduate student representatives to the University Council shall be chosen according to procedures established by the constitution of COGS and shall be chosen **to ensure** ~~such that~~ the diversity of the delegation ~~is ensured~~.

3.2.5.4. ~~As appropriate, the~~ **The** University Council's role is to communicate its views on key issues facing the University.

3.2.5.8. The University Council shall develop procedures acceptable to the President for the participation of faculty and students in the selection of administrators of University-level units **who are involved in the administration of** ~~which determine~~ policies significantly affecting the academic programs of the University.

3.2.5.8.1. These administrative positions are the Provost, the Vice President for Research and Graduate Studies, the Vice President for Student Affairs and Services, the Dean of Undergraduate Studies, the Dean of The Graduate School, the Dean of International Studies and Programs, ~~the Senior Associate Provost,~~ the Director of Libraries, and the Dean of the Honors

College.

3.2.7.2. The University Council shall normally meet at least once each month during the academic year. The President or The Steering Committee may also call a special meeting of the University Council. The Steering Committee may cancel a University Council meeting if there are no agenda items **that must** ~~to~~ be considered. The Steering Committee shall prepare the agenda for each University Council meeting. Each meeting agenda will include an item enabling new business to be introduced from the floor. The agenda will be publicly available and circulated at least one week prior to the meeting to which it relates. The meetings of the University Council shall be open. Observers shall be seated separately.

3.2.7.6. The University Council shall establish its own rules and procedures. The Faculty Senate, ASMSU, and COGS shall keep minutes of their meetings, which shall be **made public available** ~~to all members of the distributed to all members of the University Council~~ **through the Academic Governance website.** ~~and to all academic unit offices. Individual faculty may receive copies of such minutes on a regular basis upon written request to the Secretary for Academic Governance.~~

3.3.1.2.1 Each college shall have at least two representatives, one of whom will be the Chairperson of the College Advisory Committee ~~(or designee from the College Advisory Committee)~~. Each college shall have one additional representative for every **additional** fifty voting faculty **in excess of one hundred** (1.1.2.1~~7~~), not to exceed five total representatives. Each college with three or more representatives shall have at least one non-tenured faculty member among its representatives. **See 2.2.5.1.**

3.3.1.2.2. For purposes of determining the number of elected representatives on the Faculty Senate to which a college is entitled, the number of voting faculty (1.1.2.1~~7~~), shall be the total number of faculty for whom the academic units in the college ~~has~~ **have** primary responsibility for initiating personnel actions (1.1.2.3~~7~~). **For purposes of determining the number of faculty members required for the conduct of governance in accordance with these Bylaws, the census of the voting faculty will be provided to the Secretary for Academic Governance by the Office of the Provost no later than October 1 of each year.**

3.3.1.3. The second contingent of voting members of the Faculty Senate consists of the at-large faculty representatives ~~who are members of~~ **on** The Steering Committee **(3.4.1.1)**.

3.3.2.1. The Chairperson of the Faculty Senate will be selected by all voting members of the Faculty Senate from a slate made up of the at-large faculty representatives sitting on The Steering Committee. The at-large members receiving the two highest vote totals will constitute the final slate. Voting will be conducted again, and the at-large member receiving the majority of

the votes will be declared the Chairperson of the Faculty Senate and the other candidate will be declared the Vice Chairperson. **Their terms are one year.** The Chairperson of Faculty Senate also serves as Chairperson of The Steering Committee and Chairperson of the Academic Congress. The Vice Chairperson of the Faculty Senate also serves as the Vice Chairperson of The Steering Committee and Vice Chairperson of the Academic Congress.

3.3.3. Quorum for Faculty Senate Meetings. ~~3.3.3.1.~~ The quorum for conducting the business of the Faculty Senate is 50 percent of its voting membership plus one.

3.3.4.1. The Faculty Senate is a deliberative, representative, and legislative body for Michigan State University faculty. As such, the Faculty Senate is the major, regularly meeting body in which curricular issues, faculty tenure and promotion issues, and faculty salary and benefits issues are presented. **Input Advice** may be sought from the University Council ~~on appropriate issues.~~ The Faculty Senate's role is to communicate its position to the administration on these issues.

3.4.1.3. The Provost ~~or the Provost's designee~~ shall be an ex-officio member of The Steering Committee ~~with voting rights.~~ The Secretary for Academic Governance shall be an ex-officio member of The Steering Committee and shall serve as Secretary to The Steering Committee, **having voice but no vote.** Along with support to academic governance (3.4.9) the Office of Academic Governance will supply clerical and administrative assistance to The Steering Committee.

3.4.1.4. The Chairperson of The Steering Committee shall be elected annually **pursuant to 3.3.2.1.** ~~by the Faculty Senate from the at large faculty members of The Steering Committee. Election shall be for a one-year term.~~

3.4.2.3. The faculty members of The Steering Committee shall act on behalf of the Faculty Senate when, in the judgment of a majority of ~~those~~ **the membership of the Steering Committee**, action is needed before the Faculty Senate can be called into session. The Chairperson of The Steering Committee will chair such meetings. Such meetings may be called by the faculty members of The Steering Committee or by the Chairperson of The Steering Committee. Decisions taken at such meetings shall be reported to the Faculty Senate as information items and are subject to review by the Faculty Senate.

3.5.4. The Secretary for Academic Governance will serve as ~~the~~ **a liaison** between ASMSU and academic governance and between COGS and academic governance **for the purpose of encouraging student representation in academic governance.**

~~3.5.4.1. The Secretary for Academic Governance will be responsible for sharing information~~

~~with academic governance regarding actions being taken by ASMSU and COGS.~~

~~3.5.4.2. The Secretary for Academic Governance will serve as informational parliamentarian for ASMSU and COGS.~~

~~3.5.4.3. The Secretary for Academic Governance will receive and file publish the minutes of meetings of ASMSU and COGS through the Office of Academic Governance.~~

~~3.5.4.4. The Office of Student Life will consult regularly with the Secretary for Academic Governance regarding ASMSU and COGS elections and will provide assistance to ASMSU and COGS.~~

3.5.5. The Office of the Secretary for Academic Governance, along with other administrative offices, provides staff support to The Steering Committee, the University Council, the Faculty Senate, ~~ASMSU, the Council of Graduate Students~~ and the University-level Standing Committees in the execution of responsibilities directly and indirectly expressed in these Bylaws. The Secretary of Academic Governance shall supervise elections to the University Council, ~~ASMSU, the Council of Graduate Students~~ and of the at-large faculty of The Steering Committee, with review by the University Committee on Academic Governance.

4.1. ESTABLISHMENT OF STANDING COMMITTEES. ~~4.1.1.~~ There shall be the following University-level Standing Committees within Academic Governance:

4.2.1.4. The term of office for student members on University-level Standing Committees shall be one year, **renewable**. Terms of office shall begin on the first day of summer semester classes.

4.2.2.2. The chairperson of each University-level Standing Committee shall prepare a report at the end of each semester, summarizing the activities and actions of the committee during that semester, and its projected activities for the next semester. The end-of-the-semester summaries will be posted **through** ~~on~~ the website for Academic Governance. The Secretary for Academic Governance shall distribute these with the agenda or minutes for the University Council (3.2.6), or the Faculty Senate (3.2.5), as appropriate. At least once each academic year, each chairperson shall report at a meeting of the Faculty Senate (3.3.5) or the University Council (3.2.6), as appropriate. The Secretary for Academic Governance shall establish the schedule for these reports.

4.2.2.3. The chairperson of each University-level Standing Committee shall submit an annual written report of that committee's activities and actions to the Academic Governance Office by August 31. Summaries of these reports shall be posted **through** ~~on~~ the website for Academic Governance. Each University-level Standing Committee's chairperson shall regularly report to

The Steering Committee on the work of that committee.

4.2.4.2. Each University-level Standing Committee shall schedule its own meetings, **noting the schedule for all such committees established by the Secretary for Academic Governance,** and shall post the schedule **through the website for Academic Governance** ~~on its webpage.~~

4.2.4.3. University-level Standing Committee meetings shall ordinarily be open, but any such Committee may formulate procedures for closing some of its meetings for stated reasons. When a meeting is to be closed, the reasons for such closure will be announced publicly ~~and stated on the Committee web page~~ **through the website for Academic Governance.**

4.2.4.4. Each University-level Standing Committee shall determine its own agenda. Members of The Steering Committee, administrators, faculty, and students may suggest items for a Committee's agenda. Announcements of University-level Standing Committee meetings must be posted **through the website for Academic Governance** at least one week in advance of the meeting, ~~and~~ include the time and place of the meeting, and an agenda.

4.2.4.5. The quorum for Standing Committees, except as provided in each committee's procedures, shall be fifty percent plus one.

4.3.1. The University Committee on Academic Governance (UCAG) shall **include a faculty member from each college, and a faculty member from the non-college faculty. Eligibility to serve on UCAG is limited to faculty members who have previously served on a University-level Standing Committee or the Faculty Senate.** ~~have seven faculty members selected from the elected faculty currently serving on the University Council or having served within the past three years. UCAG shall have five~~ **Three** undergraduate student members of ASMSU, ~~and~~ two graduate student members ~~from~~ **of** COGS, ~~the~~ ~~The~~ ~~Provost~~ ~~or~~ ~~designee,~~ and the Secretary for Academic Governance shall be ex-officio members of UCAG.

4.3.2. The UCAG shall nominate to the University Council individuals who may be appointed to University-level ~~Standing Committees, The Steering Committee,~~ Advisory-Consultative Committees, and other committees as may be requested by the University Council.

4.3.2.2. ASMSU shall **appoint** ~~solicit nominations from the entire~~ undergraduate students ~~population for to fill~~ the **vacant** undergraduate **student positions** ~~vacancies~~ on the committees listed in 4.3.2, **in accordance with the procedures outlined in ASMSU's bylaws.** COGS shall appoint graduate or graduate-professional students to **fill the vacant** graduate **student positions** ~~vacancies~~ on the committees listed in 4.3.2, **in accordance with the procedures outlined in COGS bylaws.**

4.3.6. The UCAG shall **review unit appeals in cases of conflict between units and** consider

appeals of reviews of department or school bylaws by college committees.

4.3.8. The UCAG shall provide guidelines for **elections or appointment to committees, boards, and panels affiliated with** ~~to~~ the University Council. ~~and to The Steering Committee,~~ **The UCAG will** review challenged elections, and recommend appropriate action to the University Council.

4.6.7. **The UCFA shall participate in the University's Discipline and Dismissal of Tenured Faculty for Cause policy (Faculty Handbook) as stipulated therein.**

4.7.7. **The UCFT shall participate in the University's Discipline and Dismissal of Tenured Faculty for Cause policy (Faculty Handbook) as stipulated therein.**

5.3.1. There shall be a Faculty Healthcare Council (**FHC**) to function as the faculty voice to Human Resources and the University administration on matters related to healthcare and healthcare benefits. ~~The Faculty Healthcare Council will have voice in plan design and the capacity to comment on plan implementation.~~

5.3.2.2. Ex-officio members without vote shall include but not **be** limited to the ~~Assistant Vice President and~~ Director, **of the Office of** Planning and Budgets, and one faculty member emeritus/emera ~~without vote~~ to be selected by the Faculty Emeriti Association.

5.3.3.1. Faculty members of the FHC shall be appointed by The Steering Committee **from a list initiated by the University Committee on Academic Governance, pursuant to its annual call for volunteers to committees, boards, and panels (4.3.8); the list shall be submitted to the FHC, which shall then submit its recommendations to The Steering Committee.**

5.3.3.2. ~~Faculty members~~ Eligibility for **appointment** ~~appointed to~~ the FHC shall be established by submission to the University Committee on Academic Governance of a brief vita, rationale for willingness to serve, and acknowledgement that the work of the FHC **includes the summer months.** ~~include faculty members who are actively involved in health care discussions.~~

5.3.3.3. Faculty members of the FHC shall represent a diversity of faculty appointments, **pursuant to relevant union contracts.**

5.3.4.2. **If, for any reason, a member is unable to serve and more than one annual year remains of the appointment, The Steering Committee will identify a replacement from the most recent list of eligible volunteers; the new appointee will be eligible for reappointment for two subsequent terms. If less than one annual year remains, the seat will remain vacant**

until the next regular appointment period.

6.3.2. The President shall appoint the faculty members **to the pool for the University Academic Grievance Hearing Board, in the University Academic Integrity Hearing Board, and University Academic Appeals Board pool** during the spring semester from a list of nominees supplied by the faculty members of UCAG. The number of nominees shall be twice the number of positions to be filled.

6.3.3 The term of office for faculty members in the **pool** ~~University Academic Integrity Hearing Board pool~~ shall be **one or two** ~~three~~ years, with ~~the opportunity for~~ reappointment **never to extend a person's service beyond four consecutive years.** ~~for one additional three-year term.~~ Provisions shall be made to stagger appointments to assure continuity. Terms of office shall begin with the summer semester following appointment. **The service of current pool members extends until replacements are nominated.**

6.3.4. No faculty members of the University Council or of any committee whose members are appointed or nominated by the University Council or the Faculty Senate shall be eligible to serve concurrently on **any of the three boards.** ~~the University Academic Integrity Hearing Board.~~

MICHIGAN STATE
UNIVERSITY
April 15, 2016

MEMORANDUM

APPENDIX E

To: Trustee Policy Committee

From: June Pierce Youatt
Executive Vice President and Provost

Subject: Approval of Contract Terms: *Alphabet Energy, Inc.*

RECOMMENDATION

The Trustee Policy Committee recommends that the Board of Trustees approve a contract between Michigan State University and *Alphabet Energy, Inc.*, a company in which faculty member Dr. Donald T. Morelli holds a financial interest.

RESOLUTION

BE IT RESOLVED, that the Board of Trustees of Michigan State University hereby approves an amendment to an exclusive license agreement with *Alphabet Energy, Inc.*, consistent with earlier public notice given at a Board meeting and with an "Amended Exclusive License Agreement Term Sheet" now presented to the Board for inclusion in its minutes.



**OFFICE OF THE
PROVOST**

Michigan State University
Hannah Administration Building
426 Auditorium Road, Room 430
East Lansing, Michigan 48824

Phone: 517-355-6550
Fax: 517-355-9601
provost.msu.edu

BACKGROUND

In compliance with State law, public notice of the University's intent to negotiate contracts with *Alphabet Energy, Inc.*, a California corporation, was given at the Board of Trustees meeting on June 17, 2015. Terms of an amended exclusive license agreement are now being presented for the Board's approval.

Dr. Donald T. Morelli, a Professor in the Department of Chemical Engineering and Material Science, and members of his family own or have options to buy an ownership interest of more than 1% of the company.

The attached "Amended Exclusive License Agreement Term Sheet" summarizes the agreement that MSU has negotiated with *Alphabet Energy, Inc.*

cc: Trustee Finance Committee, L. Simon, S. Udpa, B. Beekman, S. Hsu,
R. Noto, B. Mattes, K. Zayko, C. Berg

AMENDED* EXCLUSIVE LICENSE AGREEMENT TERM SHEET

Party: Alphabet Energy, Inc.

Agreement: Exclusive option of patent rights leading to an exclusive license

Term: From the effective date through expiration of patent rights

Technology: MSU Invention Disclosure Nos. TEC2013-0001 "Thermoelectric Materials Based on Tetrahedrite Structure for the Thermoelectric Devices"; TEC2014-0003 "Natural Mineral Tetrahedrite as a Direct Source of Thermoelectric Materials"; TEC2015-0001 "Thermoelectric Materials Based on Tetrahedrite Structure with Modified Composition for Thermoelectric Devices"; and TEC2016-0012 "Enhanced Thermoelectric Properties of Tetrahedrite by Selenium Substitution for Sulfur"; and patents listed in Table 1. The parties may add or remove technologies under the agreement, provided that the change does not affect the financial consideration of the parties or the nature or extent of any pecuniary interest of MSU personnel.

Potential Commercial Use: Thermoelectric material – heat exchanger/coolant systems

Payment Terms: Annual minimum payment of \$50,000 in 2016, \$100,000 in 2017 and \$200,000 in 2018 and thereafter; running royalties of 0.4% to 4.5% varying with type of system and inclusion of royalty-bearing components; 100% reimbursement of foreign patent fees; and 90% reimbursement for U.S. patent fees

Services Provided:
By MSU to Alphabet Energy, Inc.: None contemplated under agreement
By Alphabet Energy, Inc. to MSU: None contemplated under agreement

Organization Type: California corporation

Personnel Interest: Dr. Donald T. Morelli, a Professor in the Department of Chemical Engineering and Material Science, and members of his family own or have options to buy an ownership interest of more than 1% of the company.

*The original License Agreement was executed prior to Dr. Morelli obtaining an ownership interest.

Table 1. List of Licensed Patents

MSU Ref. No.	Patent Title	Country and Serial No./Filing Date or Patent No./ Issue Date
TEC2013-0001	Thermoelectric Materials Based on Tetrahedrite Structure for the Thermoelectric Devices	US 61/668,766 filed July 6, 2012 PCT/US13/49350 filed July 3, 2013 Australia 2013286602 filed 12/24/2014 Canada 2,878,448 filed 1/5/2015 China 2013800360335 filed 1/6/2015 Europe 13740424.0 filed 1/29/2015 Japan 2015520687 filed 1/6/2015 S. Korea 10-2015-7002862 filed 2/2/2015 US 14/413,196 filed 1/6/2015
TEC2014-0003	Thermoelectric Material and Method for Producing a Thermoelectric Device	US 61/842,842 filed July 3, 2013 PCT/US14/45458 filed July 3, 2014 Europe 14820390.4 filed 12/29/20105 Japan (from PCT) filed 12/29/2015 S. Korea 10-2016-7000609 filed 12/29/2015 US 14/901,206 filed 12/29/2015
TEC2015-0001	Thermoelectric Materials Based on Tetrahedrite Structure for Thermoelectric Devices	US 62/201,820 filed 8/6/2015 PCT/US15/066796 filed 2015
TEC2016-0012	Enhanced Thermoelectric Properties of Tetrahedrite by Selenium Substitution for Sulfur	US 62/201,820 filed 8/6/2015 PCT/US15/066796 filed 2015

April 15, 2016

MEMORANDUM

To: Trustee Policy Committee

From: June Pierce Youatt
Executive Vice President and Provost

Subject: Approval of Contract Terms: *Kopess Biomass Solutions, LLC*

RECOMMENDATION

The Trustee Policy Committee recommends that the Board of Trustees approve a contract between Michigan State University and *Kopess Biomass Solutions, LLC*, a company in which faculty members Dr. Kyung-Hwan Han and Dr. Daniel E. Keathley, and Okran Han, a Professional Aide, hold a financial interest.

RESOLUTION

BE IT RESOLVED, that the Board of Trustees of Michigan State University hereby approves a lease agreement with *Kopess Biomass Solutions, LLC*, consistent with earlier public notice given at a Board meeting and with a "Lease Agreement Term Sheet" now presented to the Board for inclusion in its minutes.

BACKGROUND

In compliance with State law, public notice of the University's intent to negotiate contracts with *Kopess Biomass Solutions, LLC*, a Michigan limited liability company, was given at Board of Trustees meetings on September 11, 2015 and December 18, 2015. The terms of a lease agreement are now being presented for Board approval.

Dr. Kyung-Hwan Han and Dr. Daniel E. Keathley, both Professors in the Department of Horticulture, and Okran Han, a Professional Aide in the Department of Horticulture, and members of their families own or have options to buy an ownership interest of more than 1% of the company.

The attached "Lease Agreement Term Sheet" summarizes the agreement that MSU has negotiated with *Kopess Biomass Solutions, LLC*.

cc: Trustee Finance Committee, L. Simon, S. Udpa, B. Beekman, S. Hsu, R. Noto, B. Mattes, K. Zayko, C. Berg



OFFICE OF THE
PROVOST

Michigan State University
Hannah Administration Building
426 Auditorium Road, Room 430
East Lansing, Michigan 48824

Phone: 517-355-6550
Fax: 517-355-9601
provost.msu.edu

LEASE AGREEMENT TERM SHEET

Party: Kopess Biomass Solutions, LLC

Property Description: Lease of Room A310 of 3815 Technology Blvd., Suite 1049, Lansing, Michigan 48910, comprising 680 square feet of room/laboratory space

Term: Nine months from the effective date of the agreement

Contractual Terms: \$33* per square foot per month

Services Provided: By MSU to Kopess Biomass Solutions, LLC: None contemplated under agreement
By Kopess Biomass Solutions, LLC to MSU: None contemplated under agreement

Use of University Facilities/Personnel: None

Organization Type: Michigan limited liability company

Personnel Interest: Dr. Kyung-Hwan Han and Dr. Daniel E. Keathley, both Professors in the Department of Horticulture, and Okran Han, a Professional Aide in the Department of Horticulture, and members of their families own or have options to buy an ownership interest of more than 1 percent of the company.

*Rent is based on the last tenant's most recent rental rate of \$33.38 per square foot per month.

MICHIGAN STATE
UNIVERSITY

Trustee Policy Committee - Attachment 3d
April 15, 2016

April 15, 2016

MEMORANDUM

To: Trustee Policy Committee
From: June Pierce Youatt
Executive Vice President and Provost
Subject: Approval of Contract Terms: *Piezonix, LLC*

RECOMMENDATION

The Trustee Policy Committee recommends that the Board of Trustees approve a contract between Michigan State University and *Piezonix, LLC*, a company in which faculty member Dr. Nizar Lajnef holds a financial interest.

RESOLUTION

BE IT RESOLVED, that the Board of Trustees of Michigan State University hereby approves an option agreement with *Piezonix, LLC*, consistent with earlier public notice given at a Board meeting and with an "Option Agreement Term Sheet" now presented to the Board for inclusion in its minutes.

BACKGROUND

In compliance with State law, public notice of the University's intent to negotiate contracts with *Piezonix, LLC*, a Michigan limited liability company, was given at the Board of Trustees meeting on December 18, 2015. The terms of an option agreement are now being presented for Board approval.

Dr. Nizar Lajnef, an Associate Professor in the Department of Civil and Environmental Engineering, and members of his family own or have options to buy an ownership interest of more than 1% of the company.

The attached "Option Agreement Term Sheet" summarizes the agreement that MSU has negotiated with *Piezonix, LLC*.

cc: Trustee Finance Committee, L. Simon, S. Udpa, B. Beekman, S. Hsu,
R. Noto, B. Mattes, K. Zayko, C. Berg



OFFICE OF THE
PROVOST

Michigan State University
Hannah Administration Building
426 Auditorium Road, Room 430
East Lansing, Michigan 48824

Phone: 517-355-6550
Fax: 517-355-9601
provost.msu.edu

OPTION AGREEMENT TERM SHEET

Party: Piezonix, LLC

Option: Exclusive Option on Patent Rights

Term: Twelve months from the effective date of the agreement, extendable for an additional year

Technology: MSU Invention Disclosure Nos. TEC2006-0098 and TEC 2009-0014, both entitled "Self-Powered Sensor"; U.S. Patent Nos. 7,757,565 and 8,056,420 both entitled "Self-Powered Sensor"

The parties may add or remove technologies under the agreement, including improvements generated under a separate sponsored research agreement, provided that the change does not affect the financial consideration of the parties or the nature or extent of any pecuniary interest of MSU personnel.

Technology's Potential Commercial Utilization: Self-powered monitors attached to, or embedded in, structural materials or components for monitoring stress history of the materials or components

Payment Terms: \$1,000 for the initial 1-year option payable within 30 days of effective date and \$2,000 extension fee an additional 1-year option

Services Provided: By MSU to Piezonix, LLC: None contemplated under agreement
By Piezonix, LLC to MSU: None contemplated under agreement

Use of University Facilities/Personnel: None

Organization Type: Michigan limited liability company

Personnel Interest: Dr. Nizar Lajnef, an Associate Professor in the Department of Civil and Environmental Engineering, and members of his family own or have options to buy an equity interest of more than 1% of the company.