

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

June 21, 2013

President Simon called the meeting of the Board of Trustees to order at 9:30 a.m. in the Board Room.

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

University officers present: President Simon, Acting Provost Youatt, Vice President and Secretary Beekman, Vice President and General Counsel Noto, Vice Presidents Burnham, Flinn, Gore, Groves, Haas, Hsu, Maybank and Swain. Faculty liaisons present: William Anderson and John Powell. Student liaisons present: Stefan Fletcher and Michael Mozina.

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

1. On a motion by Trustee Owen, supported by Trustee Ferguson, the **BOARD VOTED to approve** the revised agenda.
2. On a motion by Trustee Byrum, supported by Trustee Ferguson, the **BOARD VOTED to approve** the minutes of the Board meeting of April 12, 2013.
3. President's Report

President Simon provided the following report to the Board.

A. Emmy Award

The MSUToday Productions team received an Emmy for the best Sports-One-Time-Special titled "Mayhem: The Seth Mitchell Story." President Simon congratulated the team on telling a compelling Spartan story.

B. Nutrition Award Winners

MSU received the Gold award for its Smoked Cheddar Cheeseburger in the Best Local Foods category of the National Association of College & University Food Services' Nutrition

Awards. These awards aim to help member institutions advance their culinary expertise by acknowledging successful promotions and outstanding recipes. President Simon congratulated Chef Kurt Kwiatkowski and his team.

C. Building Awards

The Eli and Edythe Broad Art Museum has been named a recipient of The Engineering Society of Detroit's 39th Annual Construction & Design Awards. The Wells Hall Addition received an Honorable Mention in the same competition.

The Molecular Plant Science Building was selected as a winning project in the 38th Annual Masonry Honor Awards recognizing excellence in masonry design.

D. College Football Hall of Fame

Former MSU two-time All-American Percy Snow was one of 12 players and two coaches named to the College Football Hall of Fame this year. Snow was a four-year letterman and three-year starter for Coach George Perles from 1986-89. A two-time first-team All-American and three-time first-team All-Big Ten selection, he led the Spartans in tackles for three consecutive seasons from 1987-89.

E. Michigan's University Research Corridor Alumni Embrace Entrepreneurship

Michigan's University Research Corridor is proving to be a powerful business incubator for students, faculty and alumni, playing a dramatically increased role in nurturing business startups and providing a boost to aspiring entrepreneurs. Graduates of the three universities that make up the URC—Michigan State University, the University of Michigan and Wayne State University—have started or acquired businesses at double the national average rate among college graduates since 1996, according to a new study. URC alumni were 1.5 times as successful as the average U.S. business owner at keeping those startups and acquisitions alive over the past five years.

F. MSU, LCC Partner to Enhance Technical and Vocational Training Abroad

A new partnership between Michigan State University and Lansing Community College will tap Michigan's academic institutions,

workforce development professionals and economic development organizations to boost technical and vocational education in Saudi Arabia. The Training-Global Leadership Workshop for Higher Administration Management for the Technical Vocational Training Corporation of Saudi Arabia is a five-part series that will train cohorts of 10 to 15 professionals at a time.

G. U.S. Women's Open

Michigan State senior Caroline Powers qualified for the 2013 U.S. Women's Open by winning a sectional qualifying tournament in Wheaton, IL, with a score of 1-under-par. Powers, the 2013 Big Ten Women's Golfer of the Year, won the tournament by two strokes over Chelsea Harris, who also qualified.

H. Future Michigan Teachers, Administrators Named 2013 Fellows

Three doctoral students have been named 2013 King Chavez Parks Future Faculty Fellowship recipients by the Graduate School. Carleen Carey, Carmel Martin-Fairey and Isabel Montemayor will use the fellowships to complete their dissertations and graduate within one year of receiving the award this summer. In return, the students are required by the State of Michigan to teach or serve as an administrator in a college or university setting for three years.

I. 34th Ag Expo

On July 16-18, Ag Expo, Michigan's largest outdoor farm show, returns to campus for the 34th time. The event brings a variety of educational and commercial activities and exhibits to the state's agricultural community. Ag Expo will bring participants the latest agricultural production technology and current research findings from the faculty of the College of Agriculture and Natural Resources.

J. Malaysian Delegation

President Simon welcomed a delegation from Malaysia to the meeting. The delegation consisted of fourteen people representing various units throughout Malaysian universities.

K. Pat Carrigan

Former Trustee Pat Carrigan died Wednesday, June 19, at a hospice facility in Bay City. She was 84. A memorial service for Trustee Carrigan will take place at the College of Veterinary

Medicine this fall. Trustee Carrigan served on the Board from 1971-79.

4. Public participation on issues germane to the agenda

A. Chittenden Hall Renovation

Dionisia Quiroga, Vice President of the Council of Graduate Students (COGS), said that the proposed renovations to Chittenden Hall include a centralized area for the Graduate School to occupy. Ms. Quiroga said that the area would serve as a neighborhood for graduate and professional students at MSU. She stated that the creation of a unified hub for graduate and professional students is vital for them to utilize efficiently support programs, as well as to allow for the formation of interdisciplinary networks.

5. Personnel Actions

Acting Provost Youatt presented the following personnel actions:

Latham, Keith, AY—Professor, Department of Animal Science, \$180,000, with Tenure, effective August 16, 2013.

Dearing, James W., AY—Professor, Department of Communications, \$160,000, with Tenure, effective August 16, 2013.

Venzant Chambers, Terah T, AY—Associate Professor, Department of Educational Administration, \$83,000, with Tenure, effective August 16, 2013.

Cox III, Charles, L., AN—Professor, Department of Physiology, \$215,000, with Tenure, effective May 16, 2013.

Elliott, Kevin C., AY—Associate Professor, Lyman Briggs College; Department of Fisheries and Wildlife, \$82,000, with Tenure, effective January 1, 2014.

Kerfeld, Cheryl, AN—John A. Hannah Distinguished Professor, Department of Biochemistry and Molecular Biology; Plant Research Laboratory, \$180,000, with Tenure, effective July 1, 2013.

Neubig, Richard R., AN—Professor, Department of Pharmacology and Toxicology, \$225,000, with Tenure, effective July 1, 2013.

Chambers Jr., Glenn A., AY—Associate Professor, Department of History, \$81,000, with Tenure, effective August 16, 2013.

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

THE BOARD VOTED to approve the recommendations.

Acting Provost Youatt presented the following personnel action:

Hanson, Steven D., AN—Chairperson and Professor, Agricultural, Food and Resource Economics; Assistant Dean, International Studies and Programs, to change title from Assistant Dean to Interim Dean Designate, International Studies and Programs, effective July 1, 2013 to August 31, 2013 and for a change in salary to \$234,000; and to Interim Dean, effective September 1, 2013.

President Simon presented the following personnel action:

Maybank, Denise B., AN—Interim Vice President, Office of the Vice President for Student Affairs and Services, to change in title to Vice President, Office of the Vice President for Student Affairs and Services, and for a change in salary to \$230,000, effective June 21, 2013.

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

THE BOARD VOTED to approve the recommendations.

Acting Provost Youatt recommended approval of the University Distinguished Professor designation for the ten faculty members listed below, to be effective June 21, 2013.

Georg Bollen	Department of Physics and Astronomy; National Superconducting Cyclotron Laboratory
Bruce E. Dale	Department of Chemical Engineering and Materials Science; MSU AgBioResearch
Dean Della Penna	Department of Biochemistry and Molecular Biology
Sheng-Yang He	Department of Plant Biology; Plant Research Laboratory; Department of Microbiology and Molecular Genetics
James D. Kelly	Department of Plant, Soil, and Microbial Sciences
Fang Zheng Peng	Department of Electrical and Computer Engineering

Elizabeth H. Simmons Lyman Briggs College; Department of Physics
and Astronomy
Cheryl L. Sisk Department of Psychology
Rodney T. Whitaker College of Music

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

THE BOARD VOTED to approve the recommendation.

Acting Provost Youatt presented the candidates for the awarding of tenure, effective July 1, 2013. (Appendix A)

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

THE BOARD VOTED to approve the recommendation.

6. Gifts, Grants, and Contracts

Vice President Hsu presented the Gifts, Grants, and Contracts Report for the period of March 28, 2013 through May 23, 2013. The report is a compilation of 425 Gifts, Grants, and Contracts plus 35 Consignment/Non-Cash Gifts, with a total value of \$68,636,468.

Trustee Breslin **moved to approve** the report, supported by Trustee Lyons.

THE BOARD VOTED to approve the Gifts, Grants, and Contracts Report.

Vice President Hsu introduced Dr. Karim Oweiss, Associate Professor of Electrical and Computer Engineering. Dr. Oweiss made a presentation to the Board on clinically viable brain machine interfaces. (Appendix B)

7. Policy Committee

Trustee Byrum presented the Trustee Policy Committee Report and recommendations.

A. Faculty Liaison to the Board of Trustees Policy Amendment

It was recommended that the Board of Trustees modify Board Policy 01-01-06 regarding Faculty Liaisons to the Board of Trustees. (Appendix C)

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

THE BOARD VOTED to approve the recommendation.

B. Revision to Bylaws for Academic Governance

It was recommended that the Board of Trustees approve the recommended revised Bylaws for Academic Governance, as approved by University Council. (Appendix D)

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

THE BOARD VOTED to approve the recommendation.

C. Approval of Contract Terms

It was recommended that the Board of Trustees approve the execution of a contract with *Metna Co.*, consistent with earlier public notice given at a Board meeting and with the "Sponsored Research Contract Term Sheet" presented to the Board. (Appendix E)

It was recommended that the Board of Trustees approve the execution of a sponsored research contract and the amendment of an existing sponsored research contract with *Technova Corporation*, consistent with earlier public notice given at a Board meeting and with the "Sponsored Research Contract Term Sheet" and "Sponsored Research Contract Amendment Term Sheet" presented to the Board. (Appendix F)

It was recommended that the Board of Trustees approve the execution of an intellectual property assignment agreement with Dr. Ruby Ghosh, consistent with earlier public notice and with the "Intellectual Property Assignment Agreement Term Sheet" presented to the Board. (Appendix G)

It was recommended that the Board of Trustees approve the execution of an intellectual property assignment agreement with Dr. Ruby Ghosh, Dr. Reza Looee, Dr. Per Askeland, and Dr. Christopher Weeks, consistent with earlier public notice and with the "Intellectual Property Assignment Agreement Term Sheet" presented to the Board. (Appendix H)

It was recommended that the Board of Trustees approve the execution of an option agreement with Ubiquitous Energy, Inc., consistent with earlier public notice and with the "Option Agreement Term Sheet" presented to the Board. (Appendix I)

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

THE BOARD VOTED to approve the recommendations.

D. ASMSU Resolution

Trustee Byrum presented the ASMSU resolution. (Appendix J)

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

THE BOARD VOTED to approve the recommendation.

Trustee Byrum exited the meeting.

8. Finance Committee

Trustee Owen presented the Trustee Finance Committee Report and recommendations.

A. 2013-14 Budget Development Guidelines and 2014-15 Preliminary General Fund Budget Guidelines

It was recommended that the Board of Trustees adopt the 2013-14 Budget Development Guidelines and 2014-15 Preliminary General Fund Budget Guidelines, which include revenue and expenditure totals and tuition and fee rates for 2013-14 and revenue and expenditure totals and tuition and fee rates for 2014-15.

In accordance with the Budget Guidelines, the administration is directed to develop and implement the 2013-14 General Fund, MSU AgBioResearch, Michigan State University Extension, and Intercollegiate Athletics budgets.

To provide students and families an extended opportunity to plan, MSU has developed the Preliminary Guidelines. The Preliminary Guidelines establish 2014-15 tuition and fee rates, revenue totals, and expenditure totals. The Preliminary Guidelines also establish the financial aid budget and the estimated State appropriation for 2014-15. The administration is directed to develop the 2014-15

Budget Development Guidelines in accordance with the Preliminary Guidelines.

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

THE BOARD VOTED to approve the recommendation.

Trustee Woodard voted no.

B. Investment Education/Advice for Participants in Retirement Plans Amendment

It was recommended to the Board of Trustees that due to recent University organizational changes the June 8, 2006 Board of Trustees Resolution regarding Investment Education/Advice for Participants in Retirement Plans, as approved by the Board on September 15, 2006 (the "2006 Resolution"), be amended by replacing the references to the "Vice President for Finance and Operations" with the "Vice President for Finance and Treasurer"; and that the Board of Trustees affirm the 2006 Resolution in all other respects.

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

THE BOARD VOTED to approve the recommendation.

C. Edythe Marshall Gift of Property in Delton, Township, Michigan

It was recommended that the Board of Trustees authorize the Administration to accept a charitable gift of approximately 2.25 acres of land from the Harold and Edythe Marshall Trust, through the Michigan State University Foundation.

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

THE BOARD VOTED to approve the recommendation.

D. Revised Investment Policy

It was recommended that the Board of Trustees amend its Investment Policy's Statement of Investment Objectives for Michigan State University's Pooled Cash Fund. (Appendix K)

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

THE BOARD VOTED to approve the recommendation.

E. New Investment Manager—Dimensional Fund Advisors LP

It was recommended that the Board of Trustees select Dimensional Fund Advisors LP as an investment manager.

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

THE BOARD VOTED to approve the recommendation.

F. New Investment Manager—Mangrove Equity Partners

It was recommended that the Board of Trustees select Mangrove Equity Partners as an investment manager.

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

THE BOARD VOTED to approve the recommendation.

G. New Investment Manager—Pelham Capital Management LLP

It was recommended that the Board of Trustees select Pelham Capital Management LLP as an investment manager.

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

THE BOARD VOTED to approve the recommendation.

H. Authorization to Plan

It was recommended that the Board of Trustees authorize the Administration to plan for the project entitled Grand Rapids—Real Estate and Research Facility Development.

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

THE BOARD VOTED to approve the recommendation.

I. Authorization to Plan—Chittenden Hall—Renovation

It was recommended that the Board of Trustees authorize the Administration to plan for the project entitled Chittenden Hall—Renovation.

Trustee Owen **moved to approve** the recommendation, with support from Trustee Woodard.

THE BOARD VOTED to approve the recommendation.

J. Authorization to Plan—Spartan Marching Band—Artificial Turf Field

It was recommended that the Board of Trustees authorize the Administration to plan for the project entitled Spartan Marching Band—Artificial Turf Field.

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

THE BOARD VOTED to approve the recommendation.

K. Project Approval—Authorization to Proceed—Spartan Stadium—North End Zone Addition

It was recommended that the Board of Trustees authorize the Administration to proceed with the project entitled Spartan Stadium—North End Zone Addition, and that it approve a budget of \$24,500,000.

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

THE BOARD VOTED to approve the recommendation.

L. Project Approval—Authorization to Proceed—Munn Ice Arena—HVAC Upgrades and Ice Making System Replacement

It was recommended that the Board of Trustees authorize the Administration to proceed with the project entitled Munn Ice Arena—HVAC Upgrades and Ice Making System Replacement, and that it approve a budget of \$6,500,000.

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

THE BOARD VOTED to approve the recommendation.

- M. Project Approval—Authorization to Proceed—Administration Building—Second Floor Renovations

It was recommended that the Board of Trustees authorize the Administration to proceed with the project entitled Administration Building—Second Floor Renovations, and that it approve a budget of \$1,100,000.

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

THE BOARD VOTED to approve the recommendation.

- N. Project Approval—Authorization to Proceed—Former Michigan State Police Post—Renovations to Buildings G and H

It was recommended that the Board of Trustees authorize the Administration to proceed with the project entitled Former Michigan State Police Post—Renovations to Buildings G and H, and that it approve a budget of \$1,900,000.

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

THE BOARD VOTED to approve the recommendation.

- O. Project Approval—Authorization to Proceed—Well House 32—New Campus Well

It was recommended that the Board of Trustees authorize the Administration to proceed with the project entitled Well House 32—New Campus Well, and that it approve a budget of \$1,100,000.

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

THE BOARD VOTED to approve the recommendation.

9. Trustee Comments

Trustee Ferguson thanked President Simon for her leadership. He said that the Board retreat went well and thanked his colleagues for their hard work on behalf of MSU.

Trustee Lyons congratulated Dr. Maybank on her appointment.

Trustee Owen thanked faculty liaisons Dr. John Powell and Dr. William Anderson for their contributions to the committee.

Trustee Mosallam thanked Stefan Fletcher, President of COGS, for his willingness to meet and discuss issues affecting COGS.

Trustee Perles stated that two Spartans, Ted Guthard and Russell Kelly, had passed away. He said that they were teammates of his and supporters of MSU.

Trustee Breslin said that he participated in the Tower Guard induction ceremony in April. He recognized the group of freshman inducted and thanked them for their service and community outreach.

10. Request to Adjourn

On a motion by Trustee Ferguson, supported by Trustee Owen, **THE BOARD VOTED to adjourn** at 10:45 a.m.

Respectfully submitted,



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

MICHIGAN STATE UNIVERSITY

The following actions which include the award of tenure are recommended to be effective July 1, 2013

Promotion to Associate Professor, Effective July 1, 2013

10002000 - COLLEGE OF AGRICULTURE & NAT RESOURCES

Name	Organization Name	Tenure Department	Also Reports To Organization Name(s)
Jin, Songqing	AGRICULTURAL, FOOD & RESOURCE ECONOMICS	AGRICULTURAL, FOOD & RESOURCE ECONOMICS	AG, FOOD, RESOURCE ECON MABR
Knott, Jason G	ANIMAL SCIENCE DEPARTMENT - ANR	ANIMAL SCIENCE DEPARTMENT - ANR	ANIMAL SCIENCE DEPARTMENT MABR
Liao, Wei	BIOSYSTEMS & AGRICULTURAL ENGINEERING	BIOSYSTEMS & AGRICULTURAL ENGINEERING	
Richardson, Robert B	DEPARTMENT OF COMMUNITY SUSTAINABILITY	DEPARTMENT OF COMMUNITY SUSTAINABILITY	
Grieshop, Matthew J	ENTOMOLOGY AGRICULTURE AND NATURAL RES	ENTOMOLOGY AGRICULTURE AND NATURAL RES	ENTOMOLOGY MABR, ENTOMOLOGY MSUE
Infante, Dana Marie	FISHERIES & WILDLIFE	FISHERIES & WILDLIFE	FISHERIES AND WILDLIFE MABR, FISHERIES AND WILDLIFE MSUE
Finley, Andrew O	FORESTRY	FORESTRY	STATISTICS & PROBABILITY, GEOGRAPHY
Barry, Cornelius S	HORTICULTURE - ANR	HORTICULTURE - ANR	HORTICULTURE MABR
Brainard, Daniel C	HORTICULTURE - ANR	HORTICULTURE - ANR	HORTICULTURE MABR, HORTICULTURE - MSUE
Sabbatini, Paolo	HORTICULTURE - ANR	HORTICULTURE - ANR	HORTICULTURE MABR, HORTICULTURE - MSUE
Auras, Rafael	PACKAGING	PACKAGING	
El-Gafy, Mohamed Anwar	SCHOOL OF PLANNING,DES,CONSTRUCTION-ANR	SCHOOL OF PLANNING,DES,CONSTRUCTION-ANR	SCHOOL OF PLANNING,DES&CONSTRUCTION-CSS

10004000 - COLLEGE OF ARTS AND LETTERS

Name	Organization Name	Tenure Department	Also Reports To Organization Name(s)
Goertler, Senta	LINGUISTICS,GERM,SLAVIC,ASIAN,AFR LANG	LINGUISTICS,GERM,SLAVIC,ASIAN,AFR LANG	
Winke, Paula M	LINGUISTICS,GERM,SLAVIC,ASIAN,AFR LANG	LINGUISTICS,GERM,SLAVIC,ASIAN,AFR LANG	
Khalil, Mohammad Hassan	RELIGIOUS STUDIES	RELIGIOUS STUDIES	

10006000 - ARTS & HUMANITIES, RESIDENTIAL COLL IN

Name	Organization Name	Tenure Department	Also Reports To Organization Name(s)
Aronoff, Eric	RESIDENTIAL COLLEGE ARTS & HUMAN DEAN	RESIDENTIAL COLLEGE ARTS & HUMAN DEAN	
Miner, Dylan Adam Torkelson	RESIDENTIAL COLLEGE ARTS & HUMAN DEAN	RESIDENTIAL COLLEGE ARTS & HUMAN DEAN	
Monberg, Terese Guinsatao	RESIDENTIAL COLLEGE ARTS & HUMAN DEAN	RESIDENTIAL COLLEGE ARTS & HUMAN DEAN	
Sheridan, David M	RESIDENTIAL COLLEGE ARTS & HUMAN DEAN	RESIDENTIAL COLLEGE ARTS & HUMAN DEAN	

**MICHIGAN STATE
UNIVERSITY**

The following actions which include the award of tenure are recommended to be effective July 1, 2013

Promotion to Associate Professor, Effective July 1, 2013

10008000 - ELI BROAD COLLEGE OF BUSINESS

Name	Organization Name	Tenure Department	Also Reports To Organization Name(s)
Voorhees, Clay Michael	DEPARTMENT OF MARKETING	DEPARTMENT OF MARKETING	
Narayanan, Sowmya Sriram	DEPARTMENT OF SUPPLY CHAIN MANAGEMENT	DEPARTMENT OF SUPPLY CHAIN MANAGEMENT	
Schoenherr, Tobias	DEPARTMENT OF SUPPLY CHAIN MANAGEMENT	DEPARTMENT OF SUPPLY CHAIN MANAGEMENT	

10010000 - COLLEGE OF COMMUNICATION ARTS & SCIENCES

Name	Organization Name	Tenure Department	Also Reports To Organization Name(s)
Bergan, Daniel Edward	COMMUNICATION	COMMUNICATION	JAMES MADISON COLLEGE DEAN
Peng, Wei	TELECOM, INFORMATION STUDIES & MEDIA	TELECOM, INFORMATION STUDIES & MEDIA	

10014000 - COLLEGE OF EDUCATION

Name	Organization Name	Tenure Department	Also Reports To Organization Name(s)
Ferreri, Summer Joy	COUNSELING, EDUC PSYCH & SPEC EDUC	COUNSELING, EDUC PSYCH & SPEC EDUC	
Roseth, Cary J	COUNSELING, EDUC PSYCH & SPEC EDUC	COUNSELING, EDUC PSYCH & SPEC EDUC	
Chudgar, Amita Rantidev	EDUCATIONAL ADMINISTRATION	EDUCATIONAL ADMINISTRATION	
Alonzo, Alicia C	TEACHER EDUCATION	TEACHER EDUCATION	
Greenwalt, Kyle Arvid	TEACHER EDUCATION	TEACHER EDUCATION	
Jacobsen, Rebecca J	TEACHER EDUCATION	TEACHER EDUCATION	

10016000 - COLLEGE OF ENGINEERING

Name	Organization Name	Tenure Department	Also Reports To Organization Name(s)
Sakamoto, Jeff S	CHEMICAL ENGINEERING & MATERIALS SCIENCE	CHEMICAL ENGINEERING & MATERIALS SCIENCE	
Xing, Guoliang	COMPUTER SCIENCE AND ENGINEERING	COMPUTER SCIENCE AND ENGINEERING	

10022000 - COLLEGE OF HUMAN MEDICINE

Name	Organization Name	Tenure Department	Also Reports To Organization Name(s)
Yu, Keifei	MICROBIOLOGY & MOLECULAR GENETICS CHM	MICROBIOLOGY & MOLECULAR GENETICS CHM	MICROBIOLOGY & MOLECULAR GENETICS CNS

10024000 - JAMES MADISON COLLEGE

Name	Organization Name	Tenure Department	Also Reports To Organization Name(s)
Cook, Lisa Denell	JAMES MADISON COLLEGE DEAN	JAMES MADISON COLLEGE DEAN	ECONOMICS
Craig, Tobin Leon	JAMES MADISON COLLEGE DEAN	JAMES MADISON COLLEGE DEAN	

**MICHIGAN STATE
UNIVERSITY**

The following actions which include the award of tenure are recommended to be effective July 1, 2013

Promotion to Associate Professor, Effective July 1, 2013

Name	Organization Name	Tenure Department	Also Reports To Organization Name(s)
Kleinerman, Benjamin Adams	JAMES MADISON COLLEGE DEAN	JAMES MADISON COLLEGE DEAN	
Komori, Yasumasa	JAMES MADISON COLLEGE DEAN	JAMES MADISON COLLEGE DEAN	

10030000 - COLLEGE OF MUSIC

Name	Organization Name	Tenure Department	Also Reports To Organization Name(s)
Prouty, Kenneth E	MUSIC	MUSIC	

10032000 - COLLEGE OF NATURAL SCIENCE

Name	Organization Name	Tenure Department	Also Reports To Organization Name(s)
Hamann, Thomas William	CHEMISTRY	CHEMISTRY	
Rooney, Tyrone O'Brien	GEOLOGICAL SCIENCES	GEOLOGICAL SCIENCES	
Lau, Jennifer A	KELLOGG BIOLOGICAL STATION NAT. SCI.	PLANT BIOLOGY CNS	PLANT BIOLOGY CNS, PLANT BIOLOGY MABR
Miller, Kyle E	ZOOLOGY NATURAL SCIENCE	ZOOLOGY NATURAL SCIENCE	

10038000 - COLLEGE OF SOCIAL SCIENCE

Name	Organization Name	Tenure Department	Also Reports To Organization Name(s)
Gibbs, Carole E	CRIMINAL JUSTICE	CRIMINAL JUSTICE	FISHERIES & WILDLIFE
Melde, Christopher Edward	CRIMINAL JUSTICE	CRIMINAL JUSTICE	
Evered, Kyle T	GEOGRAPHY	GEOGRAPHY	
Smith, Amina Moine	HISTORY	HISTORY	
Becker, Mark W	PSYCHOLOGY SOCIAL SCIENCE	PSYCHOLOGY SOCIAL SCIENCE	
Chang, Chu-Hsiang	PSYCHOLOGY SOCIAL SCIENCE	PSYCHOLOGY SOCIAL SCIENCE	
Ingersoll, Brooke Renee	PSYCHOLOGY SOCIAL SCIENCE	PSYCHOLOGY SOCIAL SCIENCE	
Navarrete, Carlos D	PSYCHOLOGY SOCIAL SCIENCE	PSYCHOLOGY SOCIAL SCIENCE	
Pleskac, Timothy J	PSYCHOLOGY SOCIAL SCIENCE	PSYCHOLOGY SOCIAL SCIENCE	
Ravizza, Susan M	PSYCHOLOGY SOCIAL SCIENCE	PSYCHOLOGY SOCIAL SCIENCE	
Fan, Peilei	SCHOOL OF PLANNING,DES&CONSTRUCTION-CSS	SCHOOL OF PLANNING,DES&CONSTRUCTION-CSS	SCHOOL OF PLANNING,DES,CONSTRUCTION-ANR, GLOBAL CHANGE & EARTH

**MICHIGAN STATE
UNIVERSITY**

The following actions which include the award of tenure are recommended to be effective July 1, 2013

Promotion to Associate Professor, Effective July 1, 2013

Name	Organization Name	Tenure Department	Also Reports To Organization Name(s)
Cho, Hyun Kag	SOCIAL WORK	SOCIAL WORK	OBSERVATIONS MABR
Woodward, Amanda Toler	SOCIAL WORK	SOCIAL WORK	
Ren, Xuefei	SOCIOLOGY SOCIAL SCIENCE	SOCIOLOGY SOCIAL SCIENCE	GLOBAL URBAN STUDIES

10046000 - COLLEGE OF VETERINARY MEDICINE

Name	Organization Name	Tenure Department	Also Reports To Organization Name(s)
Yang, Chengfeng	PHYSIOLOGY VETERINARY MEDICINE	PHYSIOLOGY VETERINARY MEDICINE	INTEGRATIVE TOXICOLOGY, CENTER FOR

**MICHIGAN STATE
UNIVERSITY**

The following actions which include the award of tenure are recommended to be effective July 1, 2013

Associate Professors Who Acquire Tenure with the Reappointment, Effective July 1, 2013

10032000 - COLLEGE OF NATURAL SCIENCE

Name	Organization Name	Tenure Department	Also Reports To Organization Name(s)
Wilkerson, Curtis G	PLANT BIOLOGY CNS	PLANT BIOLOGY CNS	BIOCHEMISTRY & MOLECULAR BIOLOGY CNS, PLANT BIOLOGY MABR

**RESEARCH
PRESENTATION
TO THE MSU BOARD OF TRUSTEES**

JUNE 21, 2013

**KARIM OWEISS
COLLEGE OF ENGINEERING**

Facilitated by the Office of the Vice President for
Research and Graduate Studies

Clinically Viable Brain Machine Interfaces

Our ultimate understanding of the brain as a complex system is reflected in our ability to predict its dynamics in the normal state and eventually control these dynamics in the pathological state. Brain-machine interfaces (BMIs), a direct communication pathway between the brain and a man-made device, offer an unprecedented opportunity to understand brain dynamics and to improve the lifestyle of many neurologically impaired subjects. For BMIs to optimally operate, some means of translation should occur between the signals that the brain uses for its internal communication and those used by the machine to achieve desirable functional outcomes.

I will give a snapshot of where we stand in terms of *reading out* signals from the brains of disabled subjects, as well as *writing in* information to substitute lost sensory functions. I will briefly lay down a vision for where the technology needs to be in the years to come, particularly to align itself with national and international initiatives aiming at deciphering the complex inner workings of the brain, and at engineering bi-directional, large-scale BMIs for clinical applications.

Biography

Karim G. Oweiss received his B.S. (1993) and M.S. (1996) degrees with honors in Electrical Engineering from the University of Alexandria, Egypt, and the Ph.D. degree (2002) in Electrical Engineering and Computer Science from the University of Michigan, Ann Arbor. He completed a post-doctoral training in Biomedical Engineering at the University of Michigan, Ann Arbor in 2002. In 2003, he joined the department of Electrical and Computer Engineering, the Neuroscience and the Cognitive Science Programs at Michigan State University, where he is currently an associate professor and director of the Neural Systems Engineering Laboratory. His research interests are in sensorimotor integration, computational neuroscience and clinical brain-machine interfaces.

Dr. Oweiss is a senior member of the IEEE and a member of the Society for Neuroscience. He served as a member of the board of directors of the IEEE Signal Processing Society on Brain Machine Interfaces, and continues to serve on the technical committees of the IEEE Biomedical Circuits and Systems, the IEEE Life Sciences, and the IEEE Engineering in Medicine and Biology societies. He was awarded the excellence in Neural Engineering award from the National Science Foundation in 2001. His lab is currently supported through multiple grants from the National Institute of Neurological Disorders and Stroke, as well as DARPA's Reliable Central-Nervous-System Interfaces (RCI) program. He is the editor and co-author of the book: *Statistical Signal Processing for Neuroscience and Neurotechnology*, published by Academic Press in 2010.

Clinically Viable Brain Machine Interfaces

Karim G. Oweiss, PhD
Associate Professor

Electrical and Computer Engineering Department
Neuroscience Program
Cognitive Science Program



June 21st, 2013

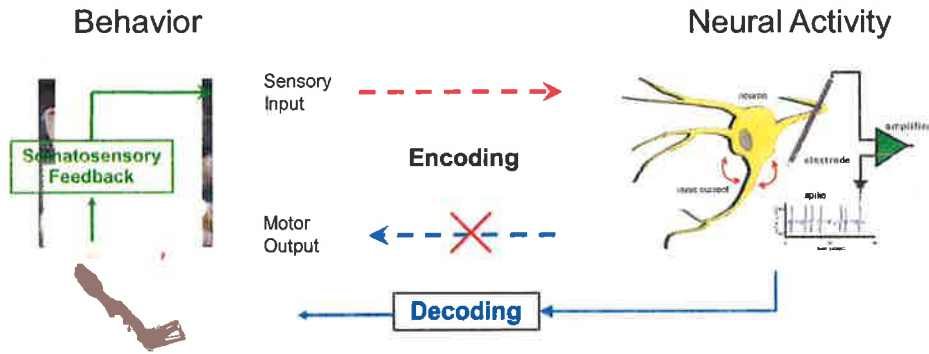
Neurotechnology: The Time is NOW

“...there is this enormous mystery waiting to be unlocked, and the BRAIN Initiative will change that by giving scientists the tools they need to get a dynamic picture of the brain in action and better understand how we think and how we learn and how we remember. And that knowledge could be—will be—transformative”



US President Barack Obama on April 2nd, 2013 announcing the **Brain Research through Advancing Innovative Neurotechnologies (BRAIN) Initiative**

The Questions

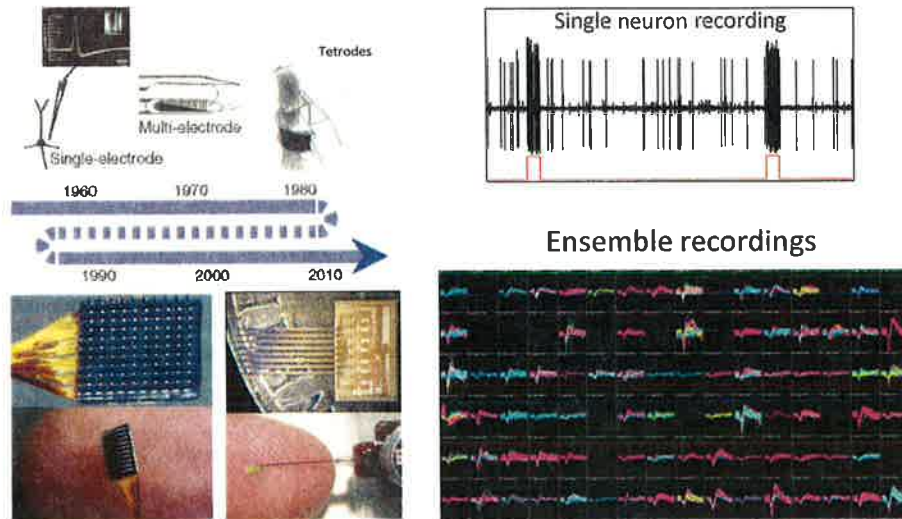


Encoding: How sensory information/motor intentions are represented in neural activity?

Decoding: How well can we predict motor intent from an observed neural activity pattern?

Control: How to evoke desired neural activity patterns to restore lost sensory feedback?

The Technology



The Application

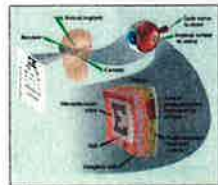
Brain Machine Interface (BMI): a direct communication pathway between the brain and a man-made machine

Sensory

Cochlear Implants



Retinal Implants



Weiland et al, 2012

Cognitive

Memory prosthesis

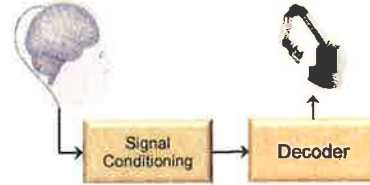


Berger et al. IEEE TNSRE 2012

Motor

- Paralysis ~ **1.7 million** (US alone)
- Another **1.4 million** have motor disabilities due to limb amputation

Neural Sensor



- Deep Brain Stimulation for Parkinson's disease
- Responsive stimulation for Epilepsy

5

The Experiment



Supported by DARPA (MSU lead, U-Chicago, U-Oklahoma)

6

The Clinical Trial

Reach and Grasp by people with tetraplegia using a neurally controlled robotic arm
Nature, 2012

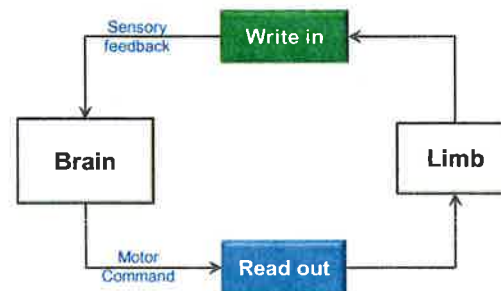


7

The Vision

Reconnect the brain to the external world to recreate actions performed by natural limbs

- Safe
- Reliable and lasting
- Utility of upper and lower limb
- Optimal decoding and stimulation to feel natural
- Portable and cosmetically acceptable



- Study brain mechanisms of adaptation (learning, memory, recovery from injury)
- Neurological Disorders (Spinal Cord Injury, Parkinson's disease, ALS, Epilepsy, Stroke, Traumatic Brain Injury, ...)

Ultimately: harness brain plasticity to "rewire" damaged brains

8

Acknowledgment

Current members

Erin Purcell, PhD
 Shiyong Hao, PhD
 Ali Mohebi
 John Daly
 Farzad Asgarian
 Ahmed Eleryan
 Islam Badreldin
 May Mansy
 Mehrdad Hashemi
 Wilfredo Cartagena
 Andy Tomaswick
 Hannah Batchelor
 Samuel Akwei-Sekyere
 Marissa Zoratti
 Cindy Knaff (Tech)

Alumni

Seif Eldawlaty, PhD
 Mehdi Aghagolzadeh, PhD
 Jianbo Liu, PhD
 Fei Zhang, PhD

Collaborators

Nicho Hatsopoulos Lab (Chicago)
 Lee Miller Lab (Northwestern)
 Andy Fagg Lab (Oklahoma)
 Jessica Cardin (Yale)
 Ed Boyden (MIT)

Support

NIH NINDS Grants # NS054148, NS047516, NS062031
 DARPA N66001-12-1-4023



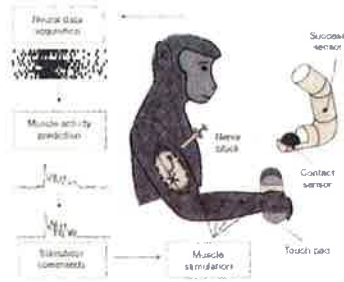
www.oweisslab.org



?

Restoration of grasp following paralysis through brain-controlled stimulation of muscles

Obby et al, *Nature*, 2012

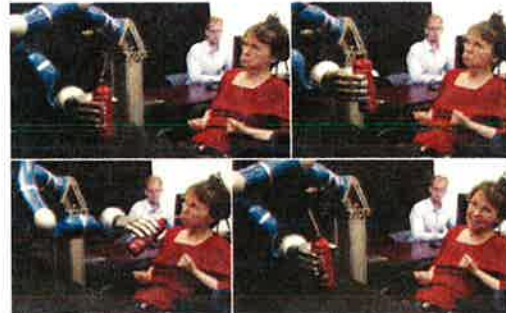


Cortically Controlled FES for Grasp
Monkey "J"

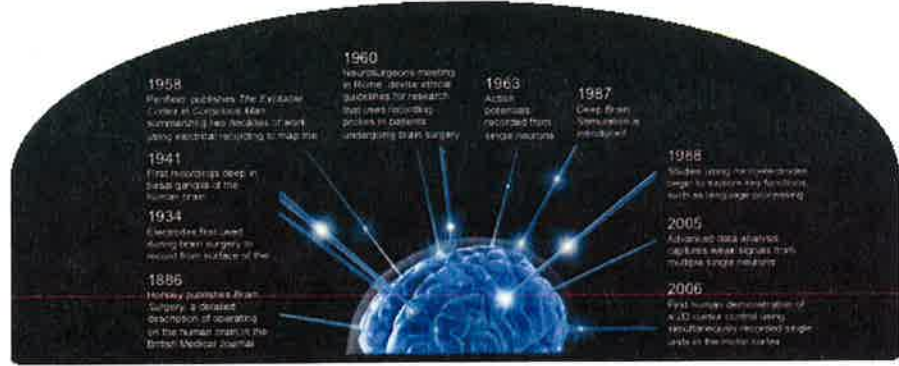
The Human Clinical trial

Neuronal ensemble control of prosthetic devices by a human with tetraplegia
Nature, 2006

Reach and Grasp by people with tetraplegia using a neurally controlled robotic arm,
Nature, 2012

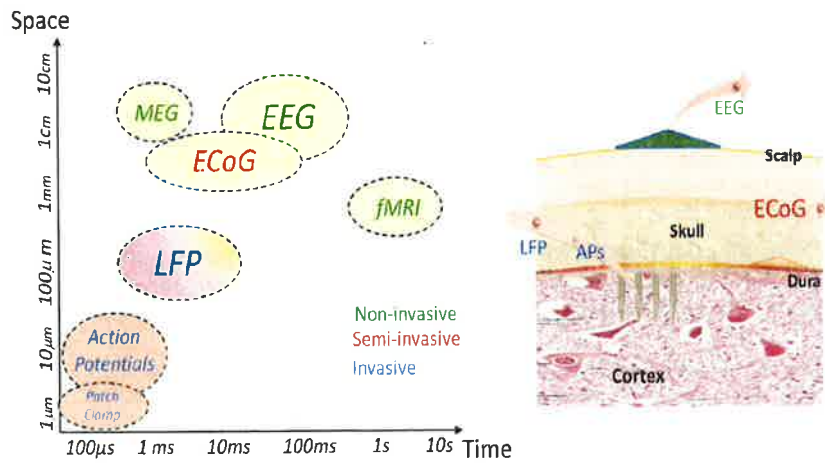


Progress in Clinical Neurosurgery



Oweiss (ed.), Academic Press, 2010

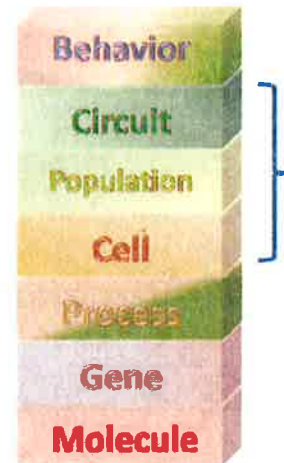
The Space-Time-Information Tradeoff



Oweiss (ed.), Academic Press, 2010

The Premise

- Large gap between behavioral studies of learning and memory and studies of cellular plasticity
- How gene expression controls and alters brain wiring?
- Complexity of forming new connections
- Monitor functional alterations in neuronal circuits
- Apply molecular genetics to manipulate individual neurons



15

Brain Institute Initiative

- Map brain activity in real-time with unprecedented precision and in increasingly natural environments to produce 4-D models of everyday cognition in action
- Build computational models of intelligence and dynamic simulation of environments that can serve as the basis for the creation of intelligent machines
- Develop adaptive technologies that seamlessly connect mind and machine to restore lost neurological function as well as personalized clinical treatments for the diseased or damaged brain
- Create neuroscientifically informed educational methods and interactive technologies for online teaching to dramatically transform and individualize student learning.

Attachment A

Current Language with Proposed Amendments

BOARD OF TRUSTEES – FACULTY LIAISON**01-01-06**

The following persons shall serve as faculty liaison representatives to the Board of Trustees:

1. The Chairperson of the Steering Committee of ~~Academic~~ University Council.
2. The Vice Chairperson of the Steering Committee of University Council. ~~One faculty representative from the University Committee on Faculty Tenure, selected by the Committee.~~
3. One faculty representative from the University Committee on Faculty Affairs, selected by the Committee.
4. ~~Two additional representatives selected by the Chairperson and Vice Chairperson of the Steering Committee of University Council from the faculty who are members of the Steering Committee of University Council or members of an ad hoc special committee constituted by the Steering Committee of University Council. These individuals should be chosen to provide additional or special insights or counsel to the Board on topics of present interest to the faculty or topics currently being addressed by the Board. They may, but need not necessarily, change from meeting to meeting. One tenured member from the Faculty Council, elected by the Council.~~
5. ~~One non-tenured member from the Faculty Council, elected by the Council.~~

These representatives will participate with the Board in its regular meetings.

Enacted: 4/22/77

Amended: 6/21/13

Proposed Language

BOARD OF TRUSTEES – FACULTY LIAISON**01-01-06**

The following persons shall serve as faculty liaison representatives to the Board of Trustees:

1. The Chairperson of the Steering Committee of University Council.
2. The Vice Chairperson of the Steering Committee of University Council.
3. One faculty representative from the University Committee on Faculty Affairs, selected by the Committee.
4. Two additional representatives selected by the Chairperson and Vice Chairperson of the Steering Committee of University Council from the faculty who are members of the Steering Committee of University Council or members of an ad hoc special committee constituted by the Steering Committee of University Council. These individuals should be chosen to provide additional or special insights or counsel to the Board on topics of present interest to the faculty or topics currently being addressed by the Board. They may, but need not necessarily, change from meeting to meeting.

These representatives will participate with the Board in its regular meetings.

Enacted: 4/22/77

Amended: 6/21/13

Attachment A

AMENDMENTS PASSED BY ACADEMIC GOVERNANCE**Amendments Passed 2012-13**

4.6.1. The faculty of each college, and the non-college faculty, shall select one faculty member to represent it on the University Committee on Faculty Affairs (UCFA). UCFA shall have as members at least two non-tenured regular faculty and two full-time fixed-term faculty who are eligible to be voting faculty under 1.1.2.1. Each year the University Committee on Academic Governance shall designate which colleges, or college groupings, shall select non-tenured faculty and full time fixed-term faculty as members of the University Committee on Faculty Affairs. The Provost or the Provost's designee **and the Director of the Office of Planning and Budgets, or designee**, shall be a member of UCFA with voice, but no vote. **The motion was passed.**

4.5.1 The members of the University Committee on Curriculum (UCC) shall include a faculty member from each college. UCC shall also have five undergraduate student members, of whom one must be a member of the Academic Assembly of ASMSU, and two graduate student members. The Provost or the Provost's designee shall be a member with voice, but no vote. The Provost shall also name an executive secretary to serve ex officio without vote. **The University Registrar shall serve ex officio without vote.**
The motion was passed.

SPONSORED RESEARCH CONTRACT TERM SHEET

Party: Metna Corporation

Contracts: Sponsored Research Agreement
“Evaluation of Concrete Deterioration Mechanisms”

Term: July 1, 2013 to December 31, 2020

Payment Terms: \$4,026.

Services Provided: By MSU to Metna Corporation: testing and evaluation of various concrete formulations.

By Metna Corporation to MSU: None under contemplated agreement.

Use of University Facilities/Personnel:
Use of MSU facilities/personnel by Metna Corporation provided at prevailing rates for industrial research.

Organization Type: Delaware corporation based in Lansing, Michigan.

Personnel Interest: Dr. Parviz Soroushian, a Professor in the Department of Civil and Environmental Engineering, and his family own or have options to buy an ownership interest of more than 1% of the company. Dr. Soroushian is also the president of Metna Corporation.

SPONSORED RESEARCH CONTRACT TERM SHEET

Party: Technova Corporation

Contracts: Sponsored Research Agreement
“Evaluation of the Long-Term Stability of Sustainable Materials”

Term: From the effective date of the agreement to December 31, 2020

Payment Terms: \$11,995.

Services Provided: By MSU to Technova: testing and evaluation of materials with high recyclable content for stability under extreme service environments.

By Technova to MSU: None under contemplated agreement.

Use of University Facilities/Personnel:
Use of MSU facilities/personnel by Technova provided at prevailing rates for industrial research.

Organization Type: Incorporated Michigan-based small business.

Personnel Interest: Dr. Parviz Soroushian, a Professor in the Department of Civil and Environmental Engineering, and his family own or have options to buy an ownership interest of more than 1% of the company. Dr. Soroushian is also the president of Technova Corporation.

SPONSORED RESEARCH CONTRACT AMENDMENT TERM SHEET

- Party:** Technova Corporation
- Contracts:** Amendment of Sponsored Research Agreement executed December 14, 2012, "Polymer Nanocomposites"
- Term:** From the effective date of the amendment to November 9, 2020
- Payment Terms:** Technova to pay MSU an additional \$9,999. Total payment to MSU under agreement, as amended, would total \$61,197.
- Services Provided:** By MSU to Technova: testing and evaluation of thermoplastic nanocomposites for stability under temperature.
- By Technova to MSU: None under contemplated agreement.
- Use of University Facilities/Personnel:** Use of MSU facilities/personnel by Technova provided at prevailing rates for industrial research.
- Organization Type:** Incorporated Michigan-based small business.
- Personnel Interest:** Dr. Parviz Soroushian, a Professor in the Department of Civil and Environmental Engineering, and his family own or have options to buy an ownership interest of more than 1% of the company. Dr. Soroushian is also the president of Technova Corporation.

INTELLECTUAL PROPERTY ASSIGNMENT AGREEMENT TERM SHEET

- Parties:** Ruby N. Ghosh, an Associate Professor in the Department of Physics and Astronomy at MSU; D.J. Osborn III; and the estate of Dr. Gregory Baker (“Inventors”).
- Agreement:** Assignment of the University’s ownership interest in the technology to the Inventors. The University retains the right to practice the technology for non-commercial purposes and, in accordance with the University’s funding obligations, to provide the federal government with the right to practice the technology.
- Term:** Ten years from effective date or the expiration of the patent term, whichever is longer.
- Technology:** MSU Invention Disclosure No. TEC2004-0137 “Sol-gel Encapsulated Metal-halide Clusters for Optical Fiber Sensing of Oxygen.”
- U.S. Patent No. 7,858,380, issued Dec. 28, 2010, entitled “Sol-gel Encapsulated Hexanuclear Clusters for Oxygen Sensing by Optical Techniques,” and any divisionals, continuations, reissues, renewals, re-examinations, foreign counterparts, substitutions and any patents issuing therefrom.
- Technology’s Potential Commercial Utilization:**
- Development of optical dissolved oxygen sensors and potential practical applications of such sensors in the fields of engineering, aquaculture and bioreactor/bioprocessing.
- Payment Terms:** Reimbursement of patent costs incurred by the University prior to the effective date of the assignment and a running royalty of 10% of the revenues Inventors receive from the commercialization and licensing of the technology.
- Services Provided:** By MSU to Inventors: None under contemplated agreement.
- By Inventors to MSU: None under contemplated agreement.
- Use of University Facilities/Personnel:**
- None
- Personnel Interest:** Ruby N. Ghosh is an Associate Professor in the Department of Physics and Astronomy at Michigan State University.

INTELLECTUAL PROPERTY ASSIGNMENT AGREEMENT TERM SHEET

- Parties:** Dr. Ruby Ghosh, an Associate Professor in the Department of Physics and Astronomy at MSU; Dr. Reza Loloee, a research specialist in the Department of Physics and Astronomy at MSU; Dr. Per Askeland, a research specialist in the College of Engineering at MSU; and Dr. Christopher Weeks, a specialist in the Department of Fisheries and Wildlife at MSU (“Inventors”).
- Assignment:** Assignment of the University’s ownership interest in the technology to the Inventors. The University retains the right to practice the technology for non-commercial purposes and, in accordance with the University’s funding obligations, to provide the Michigan Economic Development Corporation with the right to practice the technology.
- Term:** Ten years from effective date or the expiration of the patent term, whichever is longer.
- Technology:** MSU Invention Disclosure No. TEC2010-0068

PCT/US11/059361, entitled “Optical Sensor and Sensing System for Oxygen Monitoring in Fluids Using Molybdenum Cluster Phosphorescence”, and any divisionals, continuations, reissues, renewals, re-examinations, foreign counterparts, substitutions and any patents issuing therefrom.
- Technology’s Potential Commercial Utilization:**

Development of optical dissolved oxygen sensors and other potential practical applications in the fields of engineering, aquaculture and bioreactor/bioprocessing.
- Payment Terms:** Reimbursement of patent costs incurred by the University prior to the effective date of the assignment and a running royalty of 10% of the revenues Inventors receive from the commercialization and licensing of the technology.
- Services Provided:** By MSU to Inventors: None under contemplated agreement.

By Inventors to MSU: None under contemplated agreement.
- Use of University Facilities/Personnel:**

None
- Personnel Interest:** Dr. Ruby Ghosh, an Associate Professor in the Department of Physics and Astronomy at MSU; Dr. Reza Loloee, a research specialist in the Department of Physics and Astronomy at MSU; Dr. Per Askeland, a research specialist in the College of Engineering at MSU; and Dr. Christopher Weeks, a specialist in the Department of Fisheries and Wildlife at MSU.

OPTION AGREEMENT TERM SHEET

Party: Ubiquitous Energy, Inc.

Agreement: Option on Patent Rights

Term: One year from the effective date of the agreement.

Technology: MSU Invention Disclosure No.:

TEC2013-0066 "Multilayer Transparent Conductors for Stress Reduction in Thin Film Electronics"

The parties may add or remove technologies under the agreement, including improvements, 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:

Development of novel solar collectors.

Payment Terms: \$1,000 option fee. Ubiquitous Energy, Inc. to pay costs associated with the prosecution and maintenance of any patents filed that cover the optioned technology during the term of the option agreement.

Services Provided:

By MSU to Ubiquitous Energy, Inc.: None contemplated under agreement.

By Ubiquitous Energy, Inc. to MSU: None contemplated under agreement.

Use of University Facilities/Personnel:

None

Organization Type:

Delaware corporation based in Boston, Massachusetts.

Personnel interest:

Dr. Richard Lunt, an Assistant Professor in the Department of Chemical Engineering and Materials Science, and his family own or have options to buy an ownership interest of more than 1% of the company.

WHEREAS, the administration is responsible for the collection and disbursement of student tax dollars consistent with the policies of the Board;

WHEREAS, the ASMSU external auditors identified material weaknesses and deficiencies in internal controls for each of the audited years ended May 31, 2007 through 2011;

WHEREAS, the Board of Trustees and the President learned of the full extent of those weaknesses and deficiencies two years ago;

WHEREAS, the administration has attempted to work with ASMSU leadership over the past two years to address its concerns about the stewardship of student taxes entrusted to ASMSU;

WHEREAS, the Board agrees with the administration that the lack of internal controls and noncompliance with university business procedures by ASMSU is not acceptable;

WHEREAS, the Board agrees with the administration that ASMSU must move its off-campus investment and bank accounts on-campus, that ASMSU must comply with the Manual of Business Procedures and other University business procedures unless exceptions have been granted by the Vice President for Finance and Treasurer, that ASMSU must revise its governing documents to align its practices with University policies, and that ASMSU may not separately employ any individuals outside of the University's normal employment system;

WHEREAS, the administration has repeatedly assured ASMSU leadership that the University is committed to having a strong student government that operates with transparency and accountability for the student fees collected by the University;

WHEREAS, the administration has repeatedly assured ASMSU leadership that its goal is to address the financial accountability issues in a way that appropriately safeguards student fees and yet affords ASMSU continued responsibility for and autonomy in managing those tax dollars through University accounts;

WHEREAS, the current ASMSU leadership has been unwilling to align the group's financial and business practices with University requirements;

WHEREAS, the administration remains willing to meet with the leadership of ASMSU to resolve all outstanding issues;

NOW THEREFORE, BE IT RESOLVED BY THE BOARD OF TRUSTEES OF MICHIGAN STATE UNIVERSITY, AS FOLLOWS:

1. The Board hereby publicly acknowledges and thanks the leadership of the Council of Graduate Students as they have worked productively with the administration over the past academic year to align the group's financial and business practices with University requirements. It is our hope that their work will serve as a model for ASMSU leadership;
2. The Board expresses its continued support for the administration and especially the Vice President for Student Affairs and Services and the Vice President for Finance and Treasurer as they work to implement appropriate financial controls for the collection and disbursement of student taxes;
3. The Board recognizes the need to reform the undergraduate student fee collection system so that it more appropriately reflects current "best practices" established for student fees at our peer institutions within the Big 10/CIC;

4. Should ASMSU fail to move all of its off-campus investment and bank accounts into campus accounts by July 1, 2013 as required by the February 26, 2013 memorandum from Vice Presidents Haas and Maybank, the Board amends the Student Fee Collection Policy effective July 1, 2013 to remove references to the Associated Students of Michigan State University and directs the administration to develop an alternate system for the collection and disbursement of a student fee to support undergraduate student programs and services.

INVESTMENT POLICY

Policy Number: 01-07-01

Updated⁽¹⁾: (1/26/79; 4/15/83; 6/8/84; 2/6/87; 10/14/88; 12/6/91; 9/22/00; 6/5/03; 5/7/04; 11/12/04, 5/15/07, 12/5/08, 4/24/09, 4/16/10, 9/17/10, 12/10/10, 10/21/11, 12/14/12, 1/25/13, 4/12/13)

I. General Statement

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 investment portfolio.

All institutional funds available for long-term investment (generally at least five years), with the exception of funds restricted by law or by special donor limitations, will be consolidated into the Board’s Common Investment Fund (CIF). (See Exhibit A for the CIF Statement of Investment Objectives.) All institutional cash, with the exception of cash restricted by external agreements or by special donor limitations, 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.)

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.

⁽¹⁾Revision dates for exhibits are shown on the exhibits.

III. Role of Board of Trustees

The Board:

1. Shall exercise its investment responsibilities through its Finance Committee;
2. Shall, upon the recommendation of the Finance Committee, establish investment policies relating to the administration of its investment portfolio;
3. Shall, upon the recommendation of the Finance Committee, establish investment objectives;
4. Shall, upon the recommendation of the Finance Committee, appoint an investment consultant, investment managers and investment custodians for the Institutional Funds; and
5. Shall receive periodic reports on investment results through the Finance Committee.

IV. Role of Finance Committee

The Finance Committee:

1. Shall, in consultation with the Investment Advisory Subcommittee, make recommendations about policies relating to the administration of the University's investment portfolio to the Board;
2. Shall, in consultation with the Investment Advisory Subcommittee, recommend to the Board an investment consultant, investment managers and investment custodians for the Institutional Funds;
3. Shall receive periodic reports on the investment status of the portfolios and shall transmit relevant information from such reports to the Board; and
4. Shall consider other investment-related matters.

V. Role of the Chairperson of the Finance Committee

1. The Chairperson of the Finance Committee, or in the event of the temporary absence or disability of the Chairperson, the Vice Chairperson of the Finance Committee, is authorized to appoint investment managers when recommended by the Vice President for Finance and Treasurer (VPFT), in consultation with the investment consultant, when Board action on such new manager appointments at a regularly scheduled Board meeting is not feasible due to the timing of the investment opportunity; **provided that** (a) the VPFT shall notify the Board and members of the Investment Advisory Subcommittee of each proposed new manager appointment by fax or email at least one week prior to action on the proposed appointment; (b) the proposed new manager appointment shall not be acted upon if, within forty-eight hours of the notification, at least three Trustees request a special Board meeting on the proposed appointment; (c) available members of the Investment Advisory

Subcommittee shall be consulted prior to making any new manager appointment pursuant to this Section V; and (d) amounts committed in connection with new manager appointments shall be within the targeted asset allocation range specified in the CIF Statement of Investment Objectives.

2. In connection with the appointment of an investment manager under this Section V, the Chairperson of the Finance Committee, or in the event of the temporary absence or disability of the Chairperson, the Vice Chairperson of the Finance Committee, is authorized to approve University administration implementing the appointment through the formation of an entity that will function as an investment vehicle through which University funds may be committed to the newly appointed investment manager; provided that (a) the proposed investment vehicle entity and proposed equity holders of such entity are included in the notice provided under subsection 1 of this Section V, (b) the proposed investment vehicle entity shall not be authorized if within forty-eight hours of the notification, at least three Trustees request a special Board meeting on the use of the proposed entity; and (c) the available members of the Investment Advisory Subcommittee shall be consulted prior to authorizing the use of any new investment vehicle entity pursuant to this Section V.
3. The amount of University funds committed under this Section V in connection with new manager appointments shall not exceed:
 - a. \$25 million per new investment manager, or
 - b. an aggregate amount of \$150 million per calendar year.
4. The VPFT shall document compliance with each of the conditions of this Section V before implementing the appointment of a new investment manager or the creation of an investment vehicle entity.
5. Any new investment manager appointment and any new joint investment vehicle created in connection with such appointment pursuant to this Section V shall be reported to the Board and members of the Investment Advisory Subcommittee.

VI. Role of the Investment Advisory Subcommittee

The Investment Advisory Subcommittee:

1. Shall advise the Finance Committee 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 University administration on strategic investment planning and policy, investment opportunities, and such other matters as shall be determined by the Board;
3. Shall review policies 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 investment consultant, the investment managers and the University administration, annually review the performance and investment objectives of the portfolio of Institutional Funds investments;
5. Shall, in consultation with the University administration, semiannually review the performance and investment objectives of the Pooled Cash Fund;
6. Shall, in consultation with the University administration, advise the Finance Committee concerning the investment consultant, investment managers and investment custodians for the Institutional Funds; and
7. Shall usually meet with the investment consultant quarterly, but in no case less frequently than three times a year, and shall periodically evaluate the performance of the investment managers, in consultation with the University administration and the investment consultant.

VII. Role of the Investment Consultant

The investment consultant:

1. Shall annually develop and communicate to the Finance Committee, through its meetings with the Investment Advisory Subcommittee, an appropriate strategy to meet the Board's long-term investment objectives for the Institutional Funds;
2. Shall usually meet with the Investment Advisory Subcommittee quarterly, but in no case less frequently than three times a year, and with the Finance Committee as needed;
3. Shall advise the Finance Committee, through its meetings with the Investment Advisory Subcommittee, regarding searches for investment managers and investment custodians;
4. 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;
5. 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;
6. 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; and
7. Shall provide such other information pertaining to the Board's investment program as may reasonably be required and shall report immediately to the Board any major change in its confidence regarding the securities markets.

VIII. Role of the Investment Managers

Each investment manager:

1. Shall report at least quarterly to the University administration on performance and other appropriate matters;
2. Is authorized to execute investment transactions within its established guidelines, subject to any restrictions established by the Board;
3. Shall provide other necessary information for the development of interim reports and shall meet, as necessary, with the Finance Committee, the Investment Advisory Subcommittee and the VPFT; 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.

IX. 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 University administration;
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.

X. Role of the University Administration

The University administration through the VPFT:

1. Shall continuously monitor and review the investment consultant's reports, the actions of the investment managers and the status of the University's investment portfolios;
2. Shall serve as a liaison for communication among the Board, the Finance Committee, the Investment Advisory Subcommittee, the investment consultant and the investment managers;

3. Shall maintain communications, as appropriate, among the Board, the Finance Committee, the Investment Advisory Subcommittee, the investment consultant and the investment managers;
4. Shall make recommendations to the Finance Committee, in consultation with the Investment Advisory Subcommittee, concerning investment policies, structure, objectives and selection of investment managers;
5. Shall rebalance the portfolio, generally on a quarterly basis, in order to stay within the asset allocation parameters established by the Board and to maintain proper diversification among individual investment managers, (a) by reallocating funds among accounts or investment vehicles managed by investment managers already approved by the Board or by the Chairperson of the Finance Committee pursuant to Section V of this policy, or (b) by managing net cash flows into and out of the CIF by adding to underweight positions or withdrawing from overweight positions;
6. Shall report all rebalancing transactions and all new financial commitments to private investments completed during the quarter to the Finance Committee and Investment Advisory Subcommittee, and shall provide quarterly reports to the Finance Committee and Investment Advisory Subcommittee showing potential rebalancing transactions that are likely to occur over the ensuing quarter;
7. Shall have the authority to allocate funds to investment managers already approved by the Board or by the Chairperson of the Finance Committee through use of a joint investment vehicle entity, such as a limited liability company, and shall have the 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.
8. Shall report monthly to the Board and the Investment Advisory Subcommittee any market value decline in excess of both 10 percent and \$500,000 in the value of the CIF, of the Liquidity Reserve Pool, of the Liquidity Pool or of Institutional Funds that are separately invested due to donor limitations;
9. Shall report quarterly to the Board and the Investment Advisory Subcommittee any market value decline in excess of both 10 percent and \$500,000 in the value of the University's investment with an investment manager; and
10. Shall have the authority to appoint, or may act in the role of, the investment managers and investment custodians for the Pooled Cash Fund and shall report any such appointments to the Finance Committee, the Investment Advisory Subcommittee and the Board.

XI. 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 ("programmatic 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 rates for such Funds.

2. In accordance with these precepts:

(a)(i) The University will make available for programmatic spending 5.0 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. 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 reviewed annually by the Finance Committee, in consultation with the Investment Advisory Subcommittee. 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 XI (2)(a)(i) of this policy.

c. The President and the VPFT are 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

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.

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 methodology by which programmatic spending distributions are calculated and allocated under Section XI (2)(a)(i) of this policy. Assessments will be made periodically during the fiscal year, as determined by the VPFT. Not less than 30 days prior to the annual review of the programmatic spending rate pursuant to Section (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.

Statement of Investment Objectives

Michigan State University's Common Investment Fund

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, 5/15/07, 12/5/08, 6/19/09, 9/17/10, 10/21/11, 12/14/12, 4/12/13

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 spending ⁽¹⁾ 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, marketable alternatives, 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.

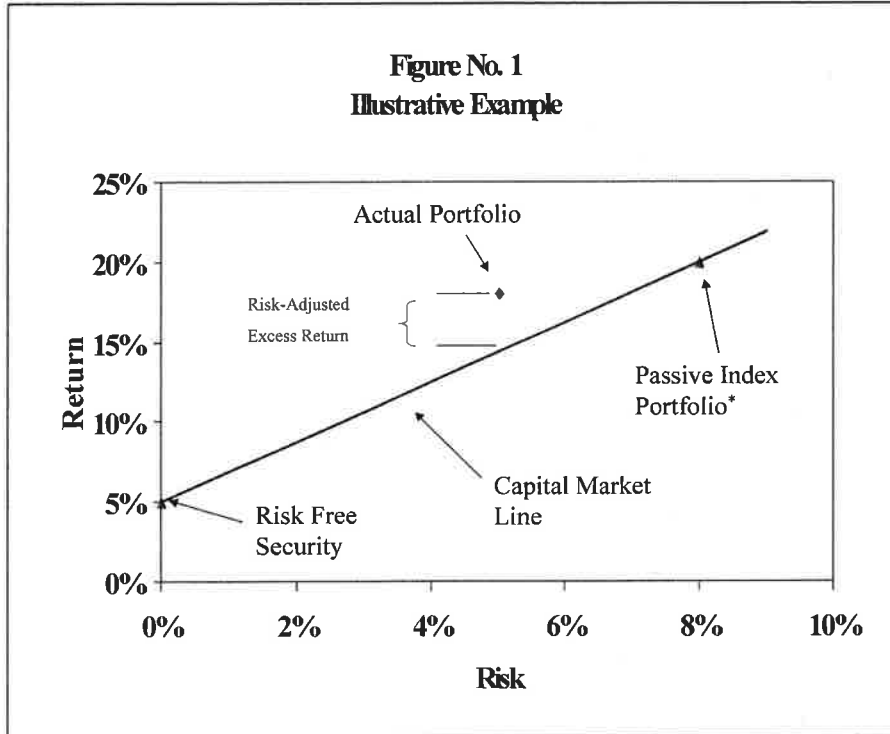
LONG-TERM PERFORMANCE GOALS

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.

⁽¹⁾ The current endowment spending policy authorizes the University to make available 5.75% 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
Inflation Hedge- Marketable	Inflation Hedge Blended Benchmark (50% MSCI U.S. Natural Resources / 25% FTSE NAREIT Equity Index / 25% S&P GSCI)	If passive, benchmark. If active, risk-adjusted excess return of 1.0% after fees
Inflation Hedge- Private Investments	Vintage year median IRR for asset class	Meet or exceed benchmark
Private Investments	Vintage year median IRR for asset class	Meet or exceed benchmark
Marketable Alternatives	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:

Table No. 2 Asset Allocation			
Major Asset Class*	Target	Range	Rationale*
U.S. Equity	16.0%	11.0% -22.0%	Maximize real returns
Developed Global ex U.S. Equity	10.0%	8.0% - 14.0%	Maximize real returns & diversification
Emerging Markets Equity	8.0%	4.0% - 12.0%	Maximize real returns & diversification
Inflation Hedge	10.0%	7.5% - 15.0%	Inflation hedge & diversification
Private Investments	18.0%	10.0% - 24.0%	Higher returns than equities & diversification
Marketable Alternatives	25.0%	20.0% - 30.0%	Low volatility & moderate correlation with equities
Fixed Income	13.0%	5.0% - 22.0%	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. It is intended to be a long-term hedge against inflation and provide a real return of about 7%. 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 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 similar to U.S. equities, but will provide some diversification due to imperfect correlation. This class will be diversified geographically.

Inflation Hedge. 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 real estate and natural resource investments, such as oil, gas, timber and minerals oriented investments. 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. Risks related to natural resource investments will be controlled by diversifying among operators and acquisition prospects and by geography.

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.

Marketable Alternatives. The University will seek equity-like returns while reducing the volatility of the CIF by investing a portion of its funds in strategies designed to achieve positive absolute returns with less correlation to broad market trends while employing risk management techniques intended to reduce downside potential. 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.

Statement of Investment Objectives

Michigan State University's Pooled Cash Fund

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)

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.)

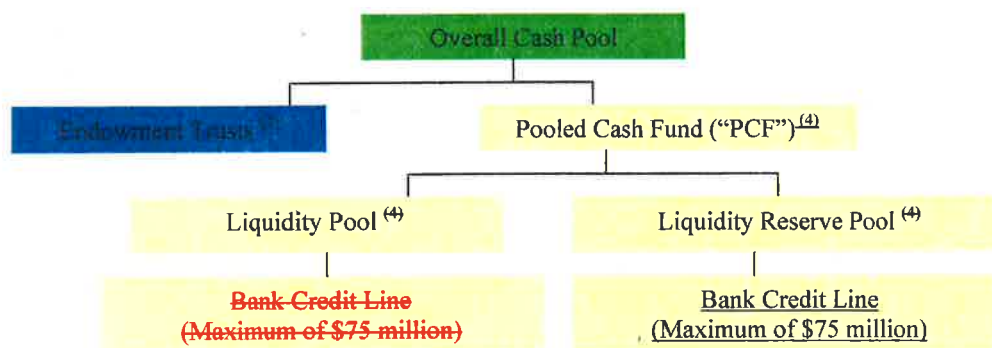
PCF ASSETS

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) ~~and up to a \$75 million bank line of credit or its equivalent. (See Figure No. 1.)~~ These funds shall be available on a daily basis. The target ~~amount-range~~ for the Liquidity Pool shall be 30 - 60 days of operating cash ⁽¹⁾ ~~(based on a 12-month average).~~

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 45-30 days of operating cash ⁽¹⁾ ~~(based on a 12-month average).~~⁽²⁾

The PCF minimum amount ~~of the combined Liquidity Pool and Liquidity Reserve Pool shall be the sum of (1) two times the Liquidity Pool's maximum historical net daily cash outflow, (2) three months of State appropriations, calculated using the sum of the University General Fund, Michigan Agricultural Experiment Station and MSU Extension appropriations from the State included in the University's Board-approved budget guidelines for that fiscal year, and (3) one-half of the total amount of tuition and fees collected for the most recently completed fall semester--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 eCash pPool amounts in excess of the PCF-targeted amount 60 days of operating cash may be i-Invested on a long-term basis with other Institutional Funds in the University's Common Investment Fund (CIF).

- (4) The PCF minimum amount of the combined Liquidity Pool and Liquidity Reserve Pool shall be the sum of (1) two times the Liquidity Pool's maximum historical net daily cash outflow, (2) three months of State appropriations, calculated using the sum of the University General Fund, Michigan Agricultural Experiment Station and MSU Extension appropriations from the State included in the University's Board-approved budget guidelines for that fiscal year, and (3) one-half of the total amount of tuition and fees collected for the most recently completed fall semester 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 sum of (1) two times the Liquidity Pool's maximum historical net daily cash outflow, (2) three months of State appropriations, calculated using the sum of the University General Fund, Michigan Agricultural Experiment Station and MSU Extension appropriations from the State included in the University's Board-approved budget guidelines for that fiscal year, and (3) one-half of the total amount of tuition and fees collected for the most recently completed fall semester <u>The greater of (1) 45 days of operating cash or (2) the minimum daily liquidity to support 5 days of maximum commercial paper maturities;</u>	30-60 days of operating cash ⁽⁺⁾
Liquidity Reserve Pool		45-30 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 ~~be retained in count towards~~ satisfying the PCF ~~minimum target amount, thus increasing the Liquidity Reserve Pool target amount by the amount of the bank line of credit.~~

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

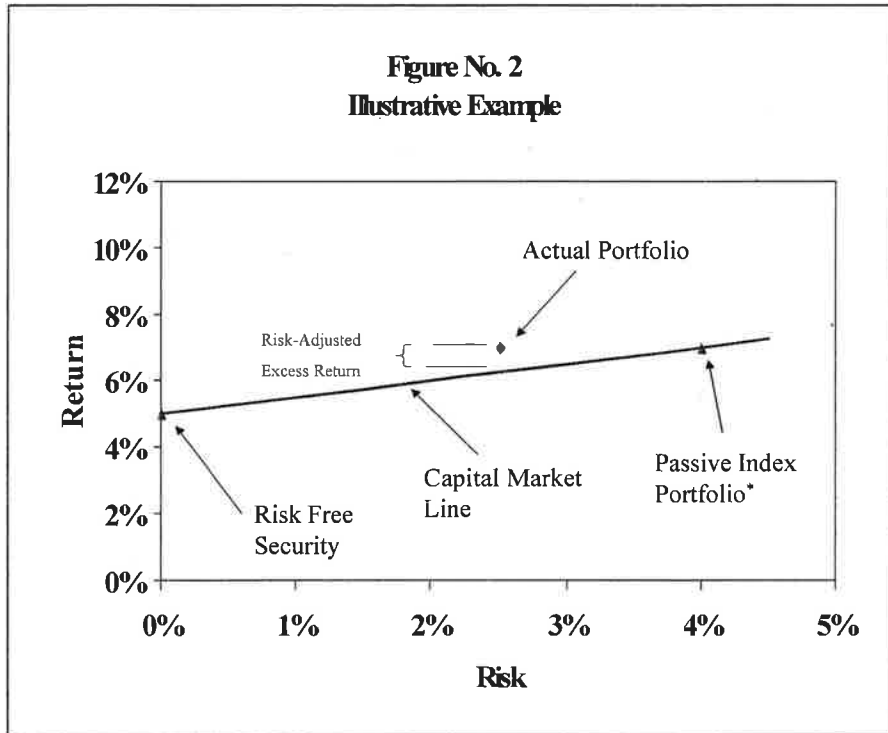
Short-term performance goals for each component of the PCF, and for individual managers, will be to outperform (if actively managed) net of fees appropriate market and peer benchmarks over rolling one, three and five-year periods. Furthermore, adherence to the investment style for which individual managers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

Investment Guidelines

Exhibit C

	<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 Inflation Hedge, Non-Marketable 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	AA
Security (at purchase):			
Short-term	Long-term	Short-term	Long-term
A1/P1	BBB	A2/P2	B
A2/P2	BB		
Maturity/Duration:			
10 year 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.	
Commingled Funds: Funds' investment guidelines at time of manager appointment or as later amended prevail.			