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

April 12, 2013

President Simon called the meeting of the Board of Trustees to order at 9:25 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 and Executive Vice President Youatt, Executive Vice President Udpa, Vice President and Secretary Beekman, Vice President and General Counsel Noto, Vice Presidents Burnham, Flinn, Gore, Groves, Haas, and Swain, Senior Associate Vice President Hunt, Acting Vice President Maybank, and Senior Advisor and Director Granberry Russell. Faculty liaisons present: William Anderson, Cary Roseth, and John Powell. Student liaisons present: Stefan Fletcher, Kelcey Gapske, and Evan Martinak.

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 agenda.

2. On a motion by Trustee Ferguson, supported by Trustee Lyons, the **BOARD VOTED to approve** the minutes of the January 11, 2013 and January 25, 2013 Board meetings.

3. Board of Trustees Award Presentations

   Trustee Breslin presented the Board of Trustees Award to the following students:

   1. Laura Bridges—Major: Nutritional Sciences; Member of the Honors College; 4.0 GPA

   2. Meghan Clark—Major: Hospitality Business; Member of the Honors College; 4.0 GPA

   3. Emily Finnan—Major: Dietetics; Member of the Honors College; 4.0 GPA

4. Thomas Gartner—Major: Applied Engineering Sciences; Member of the Honors College; 4.0 GPA

5. Zachary Gaudette—Major: Nutritional Sciences; Member of the Honors College; 4.0 GPA

6. Justin Gwizdala—Major: Accounting; 4.0 GPA

7. Mark Holzhauer—Major: Engineering; Member of the Honors College; 4.0 GPA

8. Chelsea Kneip—Major: Psychology; Member of the Honors College; 4.0 GPA

9. Kasey Kovak—Major: Human Resource Management; Member of the Honors College; 4.0 GPA

10. Andrew League—Major: Education; Member of the Honors College; 4.0 GPA

11. Erin O'Connor—Major: Psychology; Member of the Honors College; 4.0 GPA

12. Nathaniel Pasmanter—Major: Mathematics; 4.0 GPA

13. Allegra Smith—Major: Professional Writing; Member of the Honors College; 4.0 GPA

14. Ariel Vida—Major: Arts and Humanities; Member of the Honors College; 4.0 GPA

15. Brandon Waterloo—Major: Computer Science; Member of the Honors College; 4.0 GPA

16. Rebecca Zantjer—Major: Arts and Humanities; Member of the Honors College; 4.0 GPA

17. Casandra Zeni—Major: Kinesiology; 4.0 GPA

18. Yang Zhang—Major: Genomics and Molecular Genetics; Member of the Honors College; 4.0 GPA

Trustee Breslin acknowledged the Board of Trustees Award recipients who were not able to attend:

19. Jordan Hughes—Major: Public Policy; Member of the Honors College; 4.0 GPA

20. Lauren Manston—Major: Psychology; Member of the Honors College; 4.0 GPA

21. Thomas McAlvey—Major: Horticulture; Member of the Honors College; 4.0 GPA

22. Ryan Ohle—Major: Marketing; 4.0 GPA

23. Amber Peruski—Major: Human Biology; Member of the Honors College; 4.0 GPA

4. President's Report

President Simon provided the following report to the Board.

A. Chiefs of Police Award on Traffic Safety

The MSU Police Department was awarded the Michigan Association of Chiefs of Police Award for Excellence in Traffic Safety 2012. This is the fifth consecutive year that the Department has received this award for outstanding traffic initiatives in the community.

B. Building Awards

The Wells Hall Addition received the Masonry Institute of Michigan Honor Award for excellence in masonry design. The Eli and Edythe Broad Art Museum received the 2012 Build Michigan Award from the Associated General Contractors of America, the 2013 Build America Award from the Associated General Contractors of America, the 2013 Alliant Build American Merit Award, and the Washtenaw Contractor Association Pyramid Award. The Museum officially reached the 50,000 visitor mark on the four-month anniversary of its opening.

C. 2013 Mid-Michigan Addy Awards

All seven entries submitted to the 2013 Mid-Michigan Addy Awards received recognition, including four Gold, two Silver, and one Merit, plus Best of Show. Congratulations to all of those who worked to create the award-winning pieces.

D. Community Service Honor Roll with Distinction

MSU has been named to the 2013 President's Community Service Honor Roll with Distinction by the Corporation for National and Community Service. The Honor Roll recognizes higher education institutions that reflect the values of exemplary community service and achieve meaningful outcomes in their communities.

E. Broad College of Business

For the second year in a row, the Broad College of Business' full-time MBA program is the best in the country, and second-best in the world, for placement success, according to the Financial Times. The international business publication's rankings have listed MSU's business college among the top four in the category, determined by graduates' measures of the career services they received as MBA students, since 2001.

F. 2013 ACE Fellow

Elizabeth Simmons, dean of Lyman Briggs College, has been named an American Council on Education Fellow for the 2013-14 academic year. The ACE Fellows Program is designed to strengthen institutions and leadership in American higher education.

G. South by Southwest

MSU's student team won the business plan competition at South by Southwest. This is notable because MSU beat out a number of the top ranked EShip schools in the nation.

H. MSU Science Festival

The MSU Science Festival will run from April 12 to April 21 on the MSU campus. The 10-day event, free and open to the public, will have something for everyone with subjects spanning the science spectrum, from astronomy to human behavior to robotics to zoology.

The events are presented by members of the Michigan State University scientific community – faculty, staff, and students – with a number of science and technology community participants.

I. Goldwater Scholars

Dr. Cynthia Jackson-Elmoore, Dean of the Honors College, announced that MSU students Eric Bates and Kayla Felger are 2013 Goldwater Scholars.

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

5. Personnel Actions

Acting Provost Youatt presented the following personnel actions:

Roloff, Gary J., AN—Associate Professor, Department of Fisheries and Wildlife, $89,266, with Tenure, effective July 1, 2013.

Wu, Felicia, AY—John A. Hannah Distinguished Professor, Departments of Food Science and Human Nutrition; Agricultural, Food and Resource Economics, $175,000, with Tenure, effective August 16, 2013.

Cotten, Shelia, AY—Professor, Departments of Telecommunication, Information Studies and Media; Electrical and Computer Engineering, $135,000, with Tenure, effective August 16, 2013.

Deb Kalyanmoy, AY—Professor, Herman Koenig Chair in Electrical and Computer Engineering, Departments of Electrical and Computer Engineering; Mechanical Engineering; Computer Science and Engineering, $173,372, with Tenure, effective January 1, 2013.

Teixeira, Joe M., AN—Professor, Department of Obstetrics, Gynecology and Reproductive Biology, $165,000, with Tenure, effective June 1, 2013.

Merz Jr., Kenneth M., AN—Professor, Joseph Zichis Endowed Chair, Departments of Chemistry; Biochemistry and Molecular Biology; Institute for Cyber-Enabled Research, $255,000, with Tenure, effective June 1, 2013.

Kempel, Leo C., AN—Associate Dean, College of Engineering; Professor, Department of Electrical and Computer Engineering, for a change in title to Acting Dean and for a change in salary to $250,000, effective March 18, 2013.

President Simon presented the following personnel action.

Udpa, Satish S., AN—Dean, College of Engineering; University Distinguished Professor, Department of Electrical and Computer Engineering, for a change in title to Executive Vice President for

Administrative Services, Office of the Executive Vice President for Administrative Services and for a change in salary to $330,000, effective March 18, 2013.

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

THE BOARD VOTED to approve the recommendations.

6. Gifts, Grants, and Contracts

Senior Associate Vice President Hunt presented the Gifts, Grants, and Contracts Report for the period of January 9, 2013 through March 27, 2013. The report is a compilation of 543 Gifts, Grants and Contracts plus 110 Consignment/Non-Cash Gifts, with a total value of $87,140,465.

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

THE BOARD VOTED to approve the recommendation.

Senior Associate Vice President Hunt introduced Professor Natalie Phillips, College of Arts and Letters. Professor Phillips made a presentation to the Board on literary attention. (Appendix A)

7. Finance Committee

Trustee Owen presented the Trustee Finance Committee Report and recommendations.

A. 2013-14 Housing and Dining Rate Recommendations

It was recommended that the Board of Trustees adopt the basic residence hall double room and board rate of $8,806 for freshman, transfer, and returning students who select the silver unlimited meal plan for the 2013-14 academic year.

It was recommended that the Board of Trustees adopt Spartan Village rates of $650 per month for a one-bedroom apartment and $774 per month for a two-bedroom apartment, and adopt a University Village rate of $690 per month/per person for a four-bedroom apartment, effective August 1, 2013.

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

THE BOARD VOTED to approve the recommendations.

B. Revised Investment Policy

It was recommended that the Board of Trustees amend its Investment Policy, including the Statement of Investment Objectives for Michigan State University's Common Investment Fund as set forth in the materials distributed to the Board. (Appendix B)

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

THE BOARD VOTED to approve the recommendation.

C. New Investment Manager—Highclere International Investors

It was recommended that the Board of Trustees select Highclere International Investors as an investment manager.

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

THE BOARD VOTED to approve the recommendation.

D. Fund Functioning as an Endowment—Jessie M. Melis Scholarship Fund

It was recommended that the Board of Trustees establish a fund functioning as an endowment entitled Jessie M. Melis Scholarship Fund.

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

THE BOARD VOTED to approve the recommendation.

E. Authorization to Plan—Olin Health Center—Chiller Replacement

It was recommended that the Board of Trustees authorize the Administration to plan for the project entitled Olin Health Center—Chiller Replacement.

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

THE BOARD VOTED to approve the recommendation.

F. Project Approval—Authorization to Proceed—Bio Engineering Facility

It was recommended that the Board of Trustees authorize the Administration to proceed with the project entitled Bio Engineering Facility, and that it approve a budget of $60,800,000. This action is contingent on approval of an appropriation amendment by the State of Michigan.

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

THE BOARD VOTED to approve the recommendation.

G. Project Approval—Authorization to Proceed—Facility for Rare Isotope Beams—25 Mega Watt Electrical Duct Bank

It was recommended that the Board of Trustees authorize the Administration to amend the project entitled Facility for Rare Isotope Beams—25 Mega Watt Electrical Duct Bank, and that it approve a budget of $26,000,000.

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

THE BOARD VOTED to approve the recommendation.

H. Bid and Contract Award (*budget reduction*)—Parking—Lot 67 (Jenison)—Reconstruction

It was recommended that the Board of Trustees authorize the Administration to award a contract in the amount of $1,180,275 to Hoffman Brothers, Inc. and that the budget be reduced from $1,900,000 to $1,860,000 for the project entitled Parking—Lot 67 (Jenison)—Reconstruction.

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

THE BOARD VOTED to approve the recommendation.

8. Policy Committee

Trustee Byrum presented the Trustee Policy Committee Report and recommendations.

A. Naming Proposal: Justin S. Morrill Hall of Agriculture

It was recommended to the Board of Trustees that Agriculture Hall be renamed Justin S. Morrill Hall of Agriculture.

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

THE BOARD VOTED to approve the recommendation.

B. Ordinance Revision

It was recommended that the Board of Trustees rescind Ordinance 31.23.

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

THE BOARD VOTED to approve the recommendation.

C. Approval of Contract Terms

It was recommended that the Board of Trustees approve the execution of a contract with *Biophotonic Solutions, Inc.,* consistent with earlier public notice given at a Board meeting and with the "License Amendment Term Sheet" presented to the Board. (Appendix C)

It was recommended that the Board of Trustees approve the execution of a contract with *KTM Industries, Inc.*, consistent with earlier public notice given at a Board meeting and with the "License Amendment Term Sheet" presented to the Board. (Appendix D)

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 "Research Agreement Term Sheet" presented to the Board. (Appendix E)

It was recommended that the Board of Trustees approve the execution of a contract with *nanoRETE, Inc.,* consistent with earlier

public notice given at a Board meeting and with the "Material Transfer Agreement Term Sheet" presented to the Board. (Appendix F)

It was recommended that the Board of Trustees approve the execution of a contract with *Red Cedar Technology, Inc.,* consistent with earlier public notice given at a Board meeting and with the "License Amendment Term Sheet" presented to the Board. (Appendix G)

It was recommended that the Board of Trustees approve the execution of a contract with *Salgomed, Inc.,* consistent with earlier public notice given at a Board meeting and with the "Option Agreement Term Sheet" presented to the Board. (Appendix H)

It was recommended that the Board of Trustees approve the execution of a contract with *Stem ED, LLC*, consistent with earlier public notice given at a Board meeting and with the "Agreement Term Sheet" presented to the Board. (Appendix I)

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

THE BOARD VOTED to approve the recommendations.

D. Notice of Intent to Negotiate Contracts

Pursuant to State Law, the Chair of the Policy Committee gave public notice of the University's intent to negotiate contracts with *QuantumBio, Inc.*, a company based in Pennsylvania.

Dr. Kenneth M. Merz, Jr., a Professor in the Department of Chemistry and Biochemistry & Molecular Biology, and his family own or have options to buy an ownership interest of more than one percent of the company. Dr. Merz is also an officer of *QuantumBio, Inc.*

Pursuant to State Law, the Chair of the Policy Committee gave public notice of the University's intent to negotiate a contract with Dr. Robert B. Richardson regarding a publication by the MSU Press. Dr. Richardson is a faculty member in the Department of Community, Agriculture, Recreation and Resource Studies.

9. Audit Committee

Trustee Breslin presented the Trustee Audit Committee Report.

Trustee Breslin said that representatives of Plante and Moran reviewed their audit plan for the 2013-14 fiscal year with the Audit Committee. Discussions included a review of the audit scope, upcoming audit issues, required disclosures, and the audit timeline.

Matt McCabe, Director of Risk Management and Insurance, presented an overview of MSU's insurance programs, loss prevention efforts, and claims handling activities. He noted that MSU's insurance loss ratios and costs have been reduced through proactive consultations, education, contract reviews, and prevention activities to mitigate risks.

10. Diversity Report

Senior Advisor and Director Granberry Russell presented the Diversity and Inclusion at MSU Annual Progress Report for 2011-12.

The full report can be viewed at:
http://www.inclusion.msu.edu/_files/Annual%20Progress%20Report%20on%20Diversity%20and%20Inclusion.pdf

11. Trustee Comments

Trustee Ferguson congratulated the Board of Trustees Scholarship Award recipients.

Trustee Lyons congratulated the Board of Trustees Scholarship Award recipients and welcomed Executive Vice President Udpa.

Trustee Owen asked Dr. John Powell, Faculty Liaison, to provide an overview of the discussion that occurred at the faculty liaison breakfast meeting.

Dr. Powell thanked the Board on behalf of Academic Governance for its support this academic year. Dr. Powell said that he and his colleagues had a productive breakfast meeting and look forward to continued support from the Board.

Trustee Byrum said that she would participate in the Michigan Department of Natural Resources fish stocking of the Red Cedar River on April 15, 2013 and encouraged everyone to attend the event.

Trustee Mosallam congratulated the Board of Trustees Scholarship Award recipients and welcomed Executive Vice President Udpa.

Trustee Perles congratulated Executive Vice President Udpa.

Trustee Breslin commended the faculty and staff for their commitment to MSU, particularly in holding down health care costs.

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

A. Divestment from Fossil Fuels

Connor Meston, MSU student, promoted divestment from fossil fuel investments. Mr. Meston asked the Board to divest investments in fossil fuel from MSU's endowment funds because of issues related to fossil fuel use like climate change, pollution, and environmental injustice.

Julius Moss, MSU student, said that it is imperative that MSU restructure its investments so that they provide not only a high rate of return, but lead to better quality of life for both the MSU community and those around the world. Mr. Moss stated that MSU should pursue environmental and social sustainability.

Callie Bruley, MSU student, asked the Board immediately cease any further investment in fossil fuel companies and to remove current securities from investment pools that include holdings in fossil fuel companies within five years. Ms. Bruley said that she would like to see a committee comprised of faculty, staff, students, and Trustees review the University's investment policy to ensure that all future investments align with and further the mission of MSU.

B. MSU Cooperation and Labor Partnerships

Deb Bittner, President of the CTU of MSU, said that MSU is successful due to its loyal unionized employees and the positive relationship they have with their employer. Ms. Bittner said that union employees work hard daily to make sure that students succeed, are involved with University committees, and assume additional responsibilities because they care about MSU. She stated that unions are not the cause of economic downfalls, but are partners in solving problems.

13. Request to Adjourn

On a motion by Trustee Ferguson, supported by Trustee Owen, **THE BOARD VOTED to adjourn** at 11:05 a.m.

Respectfully submitted,

William R. Beekman
Secretary of the Board of Trustees

RESEARCH PRESENTATION

TO THE MSU BOARD OF TRUSTEES

APRIL 12, 2013

NATALIE PHILLIPS

COLLEGE OF ARTS AND LETTERS

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

Your Brain on Jane Austen:

An Interdisciplinary Experiment on Literature, Attention, and Reading

Natalie M. Phillips, Department of English

MSU | Board of Trustees | April 12, 2013

Literary Attention:

An Interdisciplinary fMRI of Levels of Focus in Reading

Close Reading

Pleasure Reading

N. Phillips, C. Pearson, S. Holdsworth, B. Dougherty

Digital Humanities and Literary Cognition Lab (DHLC), Michigan State University
Center for Cognitive & Neurobiological Imaging (CNi) Stanford University

Experimental Technologies

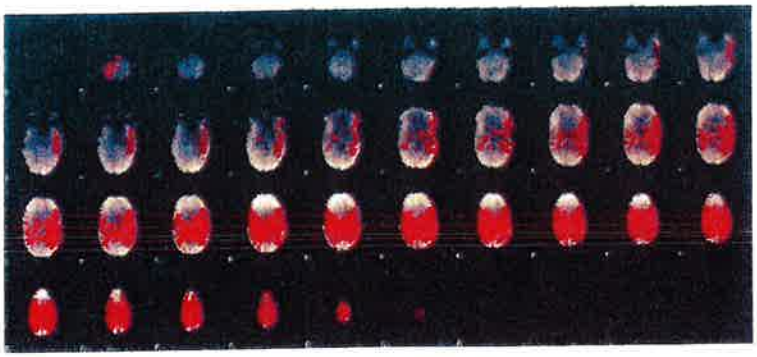
- fMRI, or functional magnetic resonance imaging
  - -blood flow to the brain
  - -fine-grained maps of anatomical structure
  - -how we respond to certain stimuli *over time*
- fMRI-compatible eye tracking
  - -saccades, or eye movements
  - -pupilometry
  - -patterns of reading and re-reading

They enter the MRI...

and begin reading Chap. 2

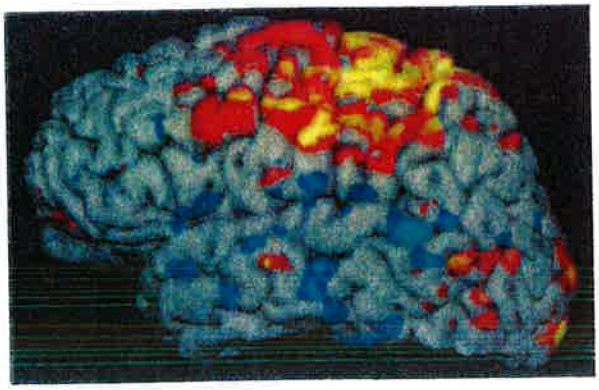
Early Results:
Diverse 'Global' Activations for Close Reading

Increased Blood Flow for Close Reading



- Vertical Cross Sections for one subject
- Red Indicates Significant Increase in Average Blood Flow
- Close Reading *as compared to* Pleasure Reading

Widespread Activation for Literary Reading:
Close Reading *and* Pleasure Reading



Pilot image of a student reading *Persuasion*.
Red and yellow: increased activity during close reading
Blue: increased activity during pleasure reading

Potential Significance

- Core skills in the liberal arts have immense cognitive complexity, integrating multiple diverse brain regions and faculties.
- It's not only the books we read—but *how* we read them—that's of value.
- Highest total brain activation comes from **switching** between pleasure reading and literary analysis, suggesting benefits of cognitive flexibility.

The Digital Humanities & Literary Cognition Lab (DHLC) | New Experiments

Department of English
Co-Directors: Natalie Phillips and Steve Rachman
Webpage: dhlc.cal.msu.edu

Poetry, Music, and Cognitive Rhythm: Integrating fMRI, EEG, and Eye Tracking in Literary Neuroscience (MSU)

Literary Immersion and the Neuroscience of Empathy: An fMRI Experiment on Trauma Narratives (MSU & Duke)

Distraction and Digital Reading: Cognitive Patterns of Attention in Fiction Reading for iPad, Kindle, and Codex and Print (MSU, Stanford, Duke)

Exhibit A

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.

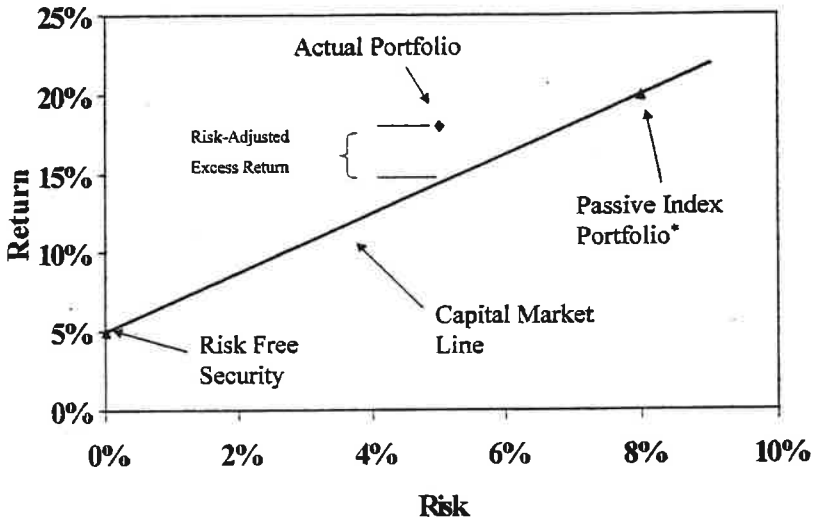
LONG-TERM PERFORMANCE GOALS

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% - ~~12.5~~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%	~~9~~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.

LICENSE AMENDMENT TERM SHEET

Party: Biophotonic Solutions, Inc.

License: Second amendment to exclusive license agreement

Term: Extending to the expiration of the last to expire patent

Technology: MSU invention disclosures and related patents:

TEC2000-0086, Optimal Laser Desorption and Ionization Source for Mass Spectrometry
TEC2004-0052, Binary Laser Pulse Shaping
TEC2005-0056, Laser Selective Excitation
TEC2005-0099, Femtosecond Laser Output Optimization
TEC2006-0043, Laser-Based Identification of Stereoisomers
TEC2006-0055, Laser Source for Material Processing
TEC2006-0092, Control System and Apparatus for Use with Ultra-Fast Laser
TEC2007-0029, Dispersion Compensation for Lasers
TEC2009-0033, Autocorrelation Laser Pulse Measurement Using Phase Modulator
TEC2009-0034, Autocorrelation Laser Pulse Measurement Using Phase Modulator with Novel Programming Function
TEC2009-0045, Ultrafast Protein Activation
TEC2009-0076, Pulse Compression Method
TEC2011-0061, Adaptive Laser for Action in Variably Dispersive Substrates

Technology's Potential Commercial Utilization:

Scientific, clinical, and industrial instrumentation, communications, homeland security, and laser devices

Payment Terms: Under license agreement with Biophotonic Solutions dated October 21, 2009, Biophotonic Solutions owes University $243,124.33 in unpaid patent expenses through March 22, 2013.

MSU agrees to convert $150,000 of the total outstanding amount to an equity interest in Biophotonic Solutions issued to the Michigan State University Foundation in Preferred Series "A" Stock. A valuation of Biophotonic Solutions was performed by an independent third party evaluator.

For remaining balance of $93,124.33 owed University, Biophotonic Solutions will pay University $4,000 per month beginning 30 days after effective date of amendment until balance is paid in full.

Services Provided: By MSU to Biophotonic Solutions: None under contemplated amendment

By Biophotonic Solutions to MSU: None under contemplated amendment

Use of University Facilities/Personnel:

None

Organization Type: Michigan-based corporation

Personnel Interest: Dr. Marcos Dantus, a Professor in the Department of Chemistry, and his immediate family own or have options to buy an equity interest of more than 1% of the company. Dr. Dantus is also an officer of Biophotonic Solutions, Inc.

LICENSE AMENDMENT TERM SHEET

Party:	KTM Industries, Inc.
Contract:	Second amendment to exclusive license agreement
Term:	Ending on the later of the expiration of the last to expire patent or February 6, 2023.
Technology:	MSU invention disclosures and related patent: TEC2002-0075 "Engineered Starch Foams with Enhanced Water Resistance, Flexibility, and Cushioning Properties" TEC2002-0078 "Extruded Starch Foam as in Insulation Material" TEC2002-0079 "Biodegradable Additives for Manufacturing Non Brittle Foamed Starch Sheets" TEC2002-0081 "Improved Processing Method for the Production of Less Dense and More Flexible Foamed Starch Packaging Sheets" TEC2003-0013 "Water Resistant Natural Polymer Coatings for Soluble Foamed Starch Materials" TEC2005-0012 "Amphiphilic Starch-Polyester Biodegradable Graft Copolymers, the Method of Preparation thereof and Its Use in Water Resistant Starch Foams" U.S. Patent No. 7,638,560
Technology's Potential Commercial Utilization:	Biodegradable engineered foam.
Payment Terms:	To encourage future third party investment in KTM Industries, the parties agree to remove provision in license giving MSU the right to convert payments due for patent expenses and annual minimum royalties into an equivalent equity interest in KTM Industries.
Services Provided:	By MSU to KTM: none under contemplated amendment. By KTM to MSU: none under contemplated amendment.

Use of University Facilities/Personnel:
None.

Organization Type: Michigan corporation based in Lansing.

Personnel Interest: Dr. Ramani Narayan, a Professor in the Department of Chemical Engineering and Materials Science, and Dr. Marcos Dantus, a Professor in the Department of Chemistry, and their families each own or have options to buy an ownership interest of more than 1% of the company. Dr. Narayan is also an officer of KTM Industries.

RESEARCH AGREEMENT TERM SHEET

Party:	Metna Corporation
Contracts:	Sponsored research agreement "Ultra-High Performance Concrete"
Term:	From the effective date of the agreement to 30 November 2013
Payment Terms:	$45,000
Services Provided:	By MSU to Metna Corporation: devise criteria and procedures for selection of "Ultra-High Performance Concrete" ("UHPC") raw materials, development of UHPC mix designs tailored towards locally available materials, and reliable, practical and scalable mixing, placement, curing and quality control of UHPC. 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.

MATERIAL TRANSFER AGREEMENT TERM SHEET

Party:	nanoRETE, Inc.
Agreement:	Material Transfer Agreement
Term:	From the effective date of the agreement to the earliest of the following dates: (1) when the material becomes generally available from third parties, (2) on completion of nanoRETE's research with the material, (3) on thirty days written notice by either party to the other, or (4) two years from the effective date.
Material:	Shiga-toxin producing escherichia coli strains
Payment Terms:	nanoRETE to pay MSU $120 for its preparation and distribution costs
Services Provided:	By MSU to nanoRETE: None under contemplated agreement By nanoRETE to MSU: None under contemplated agreement
Use of University Facilities/Personnel:	MSU to provide access to nanoRETE to e-coli strains owned by MSU
Organization Type:	Lansing-based company
Personnel Interest:	Dr. Evangelyn Alocilja, a Professor in the Department of Biosystems & Agricultural Engineering, and her family own or have options to buy an ownership interest of more than 1% of the company.

LICENSE AMENDMENT TERM SHEET

Party: Red Cedar Technology, Inc.

License: Second amendment to license agreement

Term: Extending to the longer of either the expiration of the last to expire of the patent or copyright or fifteen years from the effective date. Royalty buyout, described in "Payment Terms" section below, has a term of four months, which may be extended by Red Cedar Technology for two additional months for $10,000.

Technology: MSU Invention Disclosure Nos.:

TEC2004-0072: An Algorithm for Design Optimization of Sub-Systems within Complex Systems and related patents

TEC2000-0100: GALOPPS Software

Technology's Potential Commercial Utilization:

Design automation and optimization solutions to structural, fluid, or thermal components and multi-component systems.

Background: Red Cedar Technology is currently in negotiations with a large company that has expressed an interest in acquiring the assets of, or making a significant equity investment in, Red Cedar Technology. MSU has an interest in encouraging this investment in or acquisition of a current licensee insofar as (a) a sale of Red Cedar Technology's assets to a third party would lead to the distribution of cash proceeds to the owners of equity in Red Cedar Technology, which includes the Michigan State University Foundation, and (b) an investment by a third party in Red Cedar Technology would better position it to commercialize MSU's licensed technologies.

The third party company with which Red Cedar Technology is in negotiations has indicated that a precondition of any investment in or acquisition of Red Cedar Technology is the termination of the royalty obligation attached to the licensed GALOPPS Software under the current license. The proposed amendment agreement would allow Red Cedar Technology to buyout this royalty obligation. Additionally, in the event Red Cedar Technology exercises the royalty buyout option in connection with a sale of its assets to the third party, under the proposed amendment MSU would agree to consent to the assignment of the license agreement to the acquiring company, as described more fully below.

Payment Terms: Red Cedar Technology to pay MSU $4,000 for a four-month option to buy out royalty obligation with respect to the licensed GALOPPS software, the term of which option may be extended for two months by Red Cedar Technology for an additional $10,000. Red Cedar Technology's exercise of the royalty buyout option is contingent upon: (a) Red Cedar Technology securing a third party equity investment of at least $2,000,000 or a third party's written commitment to purchase all of Red Cedar Technology's assets; and (b) Red Cedar Technology's payment of $25,092.28 in unpaid legal costs. Additionally, if Red Cedar Technology exercises the royalty buyout option, it will pay MSU either a one-time payment of $39,800 or an annual payment of $8,000 per year for seven years.

All payment terms applicable to other technology licensed under the agreement remain unchanged.

If Red Cedar Technology exercises the royalty buyout option in connection with a sale of its assets to a third party, MSU agrees to consent to the assignment of the license to the third party, provided that Red Cedar Technology has fulfilled all obligations under the license, as amended.

Services Provided: By MSU to Red Cedar Technology: None under contemplated amendment

By Red Cedar Technology to MSU: None under contemplated amendment

Use of University Facilities/Personnel:

None

Organization Type: Incorporated, Michigan-based small business

Personnel Interest: Dr. Ron Averill and Dr. Erik Goodman, both Professors in the College of Engineering, and their families each own or have options to buy an ownership interest of more than 1% of the company. Drs. Averill and Goodman are also officers of Red Cedar Technology, Inc.

OPTION AGREEMENT TERM SHEET

Party: Salgomed, Inc.

License: Option on patent rights

Term: Two years from the effective date of the agreement

Technology: MSU Invention Disclosure No. and U.S. Patents:

MSU invention disclosure TEC2013-0028 entitled "Method for reconstruction of drug-target networks to predict effective combinatorial therapies"

Provisional Patent Serial No. 61/709,112 filed October 2, 2012 "Method for reconstruction of drug-target networks to predict effective combinatorial therapies"

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:

Evaluating therapeutic drug combinations.

Payment Terms:

$2,000 option fee.

Services Provided:

By MSU to Salgomed, Inc.: None.

By Salgomed, Inc.to MSU: None.

Use of University Facilities/Personnel:

None

Organization Type:

Corporation based in California.

Personnel interest:

Dr. Carlo Piermarocchi, a Professor in the Department of Physics and Astronomy, and his family own or have options to buy an ownership interest of more than 1% of the company. Dr. Piermarocchi is also an officer of *Salgomed, Inc.*

AGREEMENT TERM SHEET

Party:	Stem ED, LLC
Term:	From the effective date of the agreement to July 31, 2015
Contract:	Program evaluation services agreement
Payment Terms:	$40,000 to Stem ED, LLC MSU Purchasing evaluated the market for these services and concluded that Stem ED, LLC's proposed price was at or below the fair market value of the services.
Services Provided:	By MSU to Stem ED, LLC: None under contemplated agreement. By Stem ED, LLC to MSU: Evaluation of educational materials, creation of educational assessment tools, and training of personnel through workshops, seminars, and one-on-one trainings.
Use of University Facilities/Personnel:	None
Organization Type:	Limited liability company based in East Lansing
Personnel Interest:	Dr. Julie Libarkin, an Associate Professor in the College of Natural Sciences, and Dr. Stephen Thomas, an Assistant Professor in the College of Natural Sciences, and their families own or have options to buy an ownership interest of more than 1% of the company. Drs. Libarkin and Thomas are also managers of Stem ED, LLC.