

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

December 12, 2014

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, Provost and Executive Vice President Youatt, Executive Vice President Udpa, Vice President and Secretary Beekman, Vice President and General Counsel Noto, Vice Presidents Burnham, Gore, Groves, Haas, Hsu, Maybank, and Swain. Faculty liaisons present: Martin Crimp, William Davidson II, Phylis Floyd, Deborah Moriarty, and Mariam Sticklen. Student liaisons present: Emily Bank, James Conwell, Dontae Freeman, and Adam Grajewski.

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

1. On a motion by Trustee Owen, supported by Trustee Byrum, the **BOARD VOTED to approve** the revised agenda.
2. On a motion by Trustee Breslin, supported by Trustee Ferguson, the **BOARD VOTED to approve** the minutes of the October 24, 2014 Board of Trustees meeting.
3. Board of Trustees Award Presentations

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

1. Henrik Blix - Major: Advertising; Member of the Honors College; 4.0 GPA
2. Justin Fila - Major: Computer Science; Member of the Honors College; 4.0 GPA
3. Rachel Scigliano - Major: Natural Science; 3.9893 GPA
4. Levi Storks - Major: Zoology; Member of the Honors College; 4.0 GPA

Trustees Breslin and Ferguson acknowledged the Board of Trustees

Award recipients who were not able to attend:

5. Jiyeun Kim - Major: Hospitality Business; 4.0 GPA
6. Dominique Johnson - Major: Hospitality Business; 4.0 GPA

4. President's Report

President Simon provided the following report to the Board.

A. Commencement

In addition to the three commencement speakers, Michael Moore, George Will and Theresa Sullivan, MSU will award honorary degrees to the following individuals at the fall commencement exercises:

Kristin Clark Taylor is an alumnus of the College of Arts and Letters who served as the White House Director of Media Relations under former President George H.W. Bush. Ms. Taylor was the first African-American woman to hold that post. She will receive an honorary doctorate of humanities.

Robert Clark Jr., who earned a master's degree from MSU's College of Education, became the first African-American since reconstruction to be elected to the Mississippi legislature in 1967. He retired as Speaker Pro Tempore in 2003. Mr. Clark has been an active civil rights advocate since his retirement. He will receive an honorary doctorate of laws.

The Rev. James Wallis, an MSU alumnus and nationally recognized author and public theologian, is a spiritual advisor to President Barack Obama. He will receive an honorary doctorate of humanities.

B. Student Awards and Accomplishments

Honors College student and Men's swimming team captain David Zoltowski, an electrical engineering major, was a finalist for the Rhodes Scholarship and has recently been named as a nominee for the Churchill Scholarship. He is joined as a Churchill nominee by fellow Honors College student Irina Pushel, a senior majoring in biochemistry, molecular biology and biotechnology.

The University Activities Board was recognized at the National Association for Campus Activities Mid America Regional Conference with two awards: The "2014 Official MSU Drag Show" was named the Diversity and Social Justice Program of the Year, and the "Spartan Sing Off – A Capella Edition" was named the Innovative Program of the Year.

UAB student leaders Marc Reed and Mary Northfell deserve congratulations for their impressive efforts and hard work in garnering recognition for these two programs.

On November 20th, Charles Bachman, a 1948 MSU mechanical engineering graduate, was honored by President Obama at the White House, where he was awarded the National Medal of Technology and Innovation for his impact on advancements in database management, transaction processing and software engineering. The award is the nation's highest for recognizing scientific and technological achievement.

The American Veterinary Medical Foundation has named Tim Hunt as America's favorite veterinarian. Tim is a 1989 graduate of MSU's College of Veterinary Medicine, and has owned Bayshore Veterinary Hospital in Marquette, MI, since 1993. He is a veteran sled dog racer who owns 35 Alaskan huskies and has competed in events from Alaska to the French Alps.

Vice President for Student Affairs and Services Denise Maybank was recently elected as the Co-Chair of the Association of Public and Land Grant Universities (APLU) Council on Student Affairs. In this position she will have an impact on student affairs issues on a national level, ensuring MSU's influence on important discussions related to the college student experience.

After 57 years at MSU, Professor Max Kreinen will retire from the University on January 20th, his 85th birthday. Professor Kreinen has enjoyed a career as one of the foremost international economists in the world, and has been a standard bearer for MSU across the globe. Through his work, Professor Kreinen has embodied the world grant ideals the University seeks to instill in all its students. President Simon commended him on the culmination of an outstanding career.

C. Athletics

Led by four individual runners in the top 25, the MSU women's cross country team recently capped its perfect season with the program's first ever NCAA Cross Country Championship. This marks the first National Championship for an MSU women's athletic team since 1976, and is the 29th national championship in MSU athletics history. Coach Walt Drenth was also named the national women's cross-country coach of the year.

The football team will cap its season on New Year's Day with an exciting matchup against Baylor University in the Cotton Bowl. This will be MSU's first appearance in the Cotton Bowl.

Fifth year senior and punter Mike Sadler became the first athlete in MSU history to be named an Academic All-American four times. He was one of three finalists for the William V. Campbell Trophy, sometimes known as the "Academic Heisman", and won an \$18,000 scholarship as a National Football Foundation Scholar-Athlete.

After defeating the University of Washington in overtime, the MSU Men's Soccer Team moved on to the elite eight in the NCAA tournament for the second consecutive year, and came up just short of an appearance in the Final Four. President Simon congratulated Coach Rensing and his team on an outstanding season.

D. Rankings

In the recent release of BusinessWeek's annual ranking of MBA programs, the Broad College of Business continued its climb, rising to No. 33 overall and No. 11 among public universities.

BusinessWeek also named Broad No. 6 in average return on investment.

In its 2015 rankings for Best Campus Food, niche.com rated MSU's Culinary Services dining program at No. 24 in the nation, giving it an (A+) score among its peers at traditional four-year colleges and universities.

MSU ranks ninth in the nation for international student enrollment, with 7,704 students, according to an annual report by the Institute for International Education. China, Korea and India are the three top countries of origin for international students at MSU. MSU was also ranked fifth nationally for study abroad participation among students.

E. FRIB

Construction at the Facility for Rare Isotope Beams continues to make significant and exciting progress. Earlier this month, a large concrete pour took place at the “target area”, where the Facility’s heavy ion beam will hit a target and create the rare isotopes to be studied. Over 2,700 cubic yards of concrete – or about 300 trucks worth – was poured over the course of 30 hours. Construction proceeds ahead of schedule.

F. Police to Utilize Body Cameras

MSU police officers have been experimenting with the use of body cameras for some time. The MSU police have also been developing procedures and protocols for the use of body cameras and have ordered body cameras for all patrol officers. MSU will implement the use of body cameras for all MSU patrol officers in February, 2015. This added level of documentation should better serve the MSU community and MSU’s police officers. The MSU police are recognized national leaders in areas as diverse as traffic safety and technology. This is yet another example of their commitment to exceptional public service.

G. Videos

As part of the “It’s On Us” campaign, an effort introduced by the White House to raise awareness of sexual assault on college campuses, ASMSU has developed a video to galvanize those efforts among students on MSU’s campus. The video has received special attention through the White House Initiative and the Campus Leadership Council.

Communications and Brand Strategy recently won a 2014 CASE Circle of Excellence Award. As a further example of the top quality work CABS continues to produce, The Spartans Will public service announcement debuted last week and has received much positive feedback.

On November 21 and 22, MSU joined with the Magic Johnson Foundation as a sponsor for the Holiday Hope Detroit event. Twenty students went to Detroit to prepare gift bags for 200 children and to begin preparation for the food and clothing giveaway. Approximately 30 Spartan participants returned to Second Ebenezer Baptist Church, where over 2,000 cars rolled

through a distribution line to receive food, coats and toiletries for 10,000 individuals.

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

6. Personnel Actions

President Simon introduced Provost Youatt and recognized her as the 2014 ATHENA Award recipient.

Provost Youatt thanked President Simon and presented the following personnel actions:

McCall, Michael, AN - Professor, The School of Hospitality Business, \$213,611, with Tenure, effective January 1, 2015.

Bachmann, Andre' S., AN - Professor, Pediatrics and Human Development, \$153,000, with Tenure, effective January 5, 2015.

Finn, Mary A., AN - Professor, School of Criminal Justice, \$225,000, with Tenure, effective January 1, 2015.

Petroff, Margaret G., AY - Associate Professor, Department of Pathobiology and Diagnostic Investigation; Microbiology and Molecular Genetics, \$110,000, with Tenure, effective January 1, 2015.

The following actions include tenure recommendations which were delayed last spring and which are recommended by the relevant Department Chairpersons/School Directors, and Deans and by the Provost in accordance with the tenure rules.

Frey, Jon, promotion to Associate Professor, Departments of Art, Art History and Design; Romance and Classical Studies, with Tenure, effective January 1, 2015.

El-Rayes, Waseem M. promotion to Associate Professor, James Madison College, with Tenure, effective January 1, 2015.

Manning, Shannon D. promotion to Associate Professor, Department of Microbiology and Molecular Genetics, with Tenure, effective January 1, 2015.

Vieille, Claire, promotion to Associate Professor, Departments of Microbiology and Molecular Genetics; Biochemistry and Molecular Biology, with Tenure, effective January 1, 2015.

Murphy, Edward, promotion to Associate Professor, Department of History, with Tenure, effective January 1, 2015.

Sarkissian, Ani, promotion to Associate Professor, Department of Political Science, with Tenure, effective January 1, 2015.

Nawyn, Stephanie, promotion to Associate Professor, Department of Sociology, with Tenure, effective January 1, 2015.

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

THE BOARD VOTED to approve the recommendations.

7. Gift, Grant and Contract Report

Vice President Hsu presented the Gifts, Grants, and Contracts Report for the period of July 30, 2014 through November 11, 2014. The report is a compilation of 939 Gifts, Grants and Contracts, plus 45 Consignment/Non-Cash Gifts, with a total value of \$156,412,730.

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

Vice President Hsu introduced Dr. Tyce DeYoung, Associate Professor, Department of Physics and Astronomy, who presented to the Board on The IceCube Neutrino Observatory – catching ghost particles at the South Pole. (Appendix A)

8. Finance Committee

Trustee Owen presented the Trustee Finance Committee Report and the following recommendations and resolutions.

A. Appointment of External Investment Advisory Subcommittee Member

It was recommended that the Board of Trustees reappoint Randy Cowen to a second three-year term on the Investment Advisory Subcommittee.

Be it resolved that the Board of Trustees of Michigan State University hereby reappoints Randy Cowen to a second three-year term commencing January 1, 2015, as an external member of the Investment Advisory Subcommittee.

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

THE BOARD VOTED to approve the resolution.

B. Acceptance of Basolo Property in Antrim County, Michigan

It was recommended that the Board of Trustees accept a gift of land from the Peter Basolo Trust.

Be it resolved, that the Board of Trustees of Michigan State University hereby accepts a gift of approximately 38.73 acres of vacant land located in Antrim County, Michigan.

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

THE BOARD VOTED to approve the resolution.

C. Fund Functioning as an Endowment Merillat Equine Science and Education Endowment

It was recommended that the Board of Trustees establish a fund functioning as an endowment to support equine science and management and education activities associated with MSU faculty and students participating in equine science and management.

Be it resolved, that the Board of Trustees of Michigan State University hereby establishes a fund functioning as an endowment entitled "Merillat Equine Science and Education Endowment".

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

THE BOARD VOTED to approve the resolution.

D. Bio Engineering Construction and Completion Assurance Agreement

It was recommended that the Board of Trustees approve the Construction and Completion Assurance Agreement, a conveyance of property, a lease and an easement agreement, if necessary, for the Michigan State University Bio-Engineering Facility. (Appendix B)

Be it resolved, that the Board of Trustees of Michigan State University hereby approves the Construction and Completion Assurance Agreement, a conveyance of property, a lease and an easement agreement, if necessary, for the Michigan State University Bio-Engineering Facility.

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

THE BOARD VOTED to approve the resolution.

E. Children's Garden - Restroom and Sewer Line

It was recommended that the Board of Trustees authorize the Administration to plan for permanent restrooms adjacent to the Children's Garden.

Be it resolved, that the Board of Trustees of Michigan State University hereby authorizes the Administration to plan for the project entitled "Children's Garden - Restroom and Sewer Line".

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

THE BOARD VOTED to approve the resolution.

F. North Campus Infrastructure Improvements - West Circle Drive - 2015

It was recommended that the Board of Trustees authorize the Administration to proceed with the final phase of infrastructure improvements along West Circle Drive.

Be it resolved, that the Board of Trustees of Michigan State University hereby authorizes the Administration to proceed with the project entitled "North Campus Infrastructure Improvements - West Circle Drive - 2015", with a project budget of \$9,500,000.

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

THE BOARD VOTED to approve the resolution.

G. MSU Community Music School - Reconstruct Parking Lot

It was recommended that the Board of Trustees authorize the Administration to proceed with demolition of a house and reconstruction of the parking lot at the MSU Community Music School, located at 4930 Hagadorn Road.

Be it resolved, that the Board of Trustees of Michigan State University hereby authorizes the Administration to proceed with the project entitled "MSU Community Music School - Reconstruct Parking Lot".

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

THE BOARD VOTED to approve the resolution.

H. Life Sciences - Renovations to A-Wing

It was recommended that the Board of Trustees authorize the Administration to proceed with renovations in the Life Science Building for the College of Nursing.

Be it resolved, that the Board of Trustees of Michigan State University hereby authorizes the Administration to proceed with the project entitled "Life Sciences - Renovations to A-Wing", with a project budget of \$2,400,000.

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

THE BOARD VOTED to approve the resolution.

I. Grand Rapids - Former Press Building Demolition

It was recommended that the Board of Trustees authorize the Administration to proceed with demolishing the former Grand Rapids Press Building located at 155 Michigan Street in Grand Rapids, Michigan.

Be it resolved, that the Board of Trustees of Michigan State University hereby authorizes the Administration to proceed with the project entitled "Grand Rapids - Former Press Building Demolition", with a project budget of \$3,000,000.

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

THE BOARD VOTED to approve the resolution.

J. Facility for Rare Isotope Beams/Campus - Power Plant Connection

It was recommended that the Board of Trustees authorize the Administration to proceed with creation of a connection between the Facility for Rare Isotope Beams/Campus and the T.B. Simon Power Plant.

Be it resolved, that the Board of Trustees of Michigan State University hereby authorizes the Administration to proceed with the project entitled "Facility for Rare Isotope Beams/Campus - Power Plant Connection", with a project budget of \$11,500,000.

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

THE BOARD VOTED to approve the resolution.

K. T.B. Simon Power Plant - Upgrade Utility Substation

It was recommended that the Board of Trustees authorize the Administration to proceed with creation of a new substation at the T.B. Simon Power Plant.

Be it resolved, that the Board of Trustees of Michigan State University hereby authorizes the Administration to proceed with the project entitled "T.B. Simon Power Plant - Upgrade Utility Substation", with a project budget of \$24,000,000.

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

THE BOARD VOTED to approve the resolution.

9. Policy Committee

Trustee Byrum presented the Trustee Policy Committee Report and the following recommendations and resolutions.

A. Appointments to the MSU College of Law Board of Trustees

It was recommended that the Board of Trustees approve the following appointments to the MSU College of Law Board of Trustees:

Charles Janssen for a term of 3 years, commencing January 1, 2015, and ending December 31, 2017.

David Porteous for a term of 3 years, commencing January 1, 2015, and ending December 31, 2017.

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

THE BOARD VOTED to approve the resolution.

B. Approval of Contract Terms

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

Be it resolved that the Board of Trustees approves a contract between Michigan State University and *Biophotonic Solutions, Inc.* consistent with earlier public notice given at a Board meeting and with the "Purchase Agreement Term Sheet" now presented to the Board for inclusion in its minutes. (Appendix C)

It was recommended that the Board of Trustees approve a contract between Michigan State University and *CourseWeaver, Inc.*, a company in which faculty members Dr. Gerd Kortemeyer and Dr. Wolfgang Bauer hold a financial interest.

Be it resolved that the Board of Trustees approves a sponsored research agreement with *CourseWeaver, Inc.*, consistent with earlier public notice given at a Board meeting and with the "Sponsored Research Agreement Term Sheet" now presented to the Board for inclusion in its minutes. (Appendix D)

It was recommended that the Board of Trustees approve a contract between Michigan State University and *Drawbridge, Inc.*, a company in which faculty members Dr. Jeffrey Grabill and Dr. William Hart-Davidson hold a financial interest.

Be it resolved that the Board of Trustees approves a software license, support and hosting agreement with *Drawbridge, Inc.* consistent with earlier public notice given at a Board meeting and with the "License Agreement Term Sheet" now presented to the Board for inclusion in its minutes. (Appendix E)

It was recommended that the Board of Trustees approve a contract between Michigan State University and *Guangzhou Wolbaki Biotech Company Ltd.*, a company in which faculty member Dr. Zhiyong Xi holds a financial interest.

Be it resolved that the Board of Trustees approves a sponsored research agreement with *Guangzhou Wolbaki Biotech Company Ltd.* consistent with earlier public notice given at a Board meeting and with the "Sponsored Research Agreement Term Sheet" now presented to the Board for inclusion in its minutes. (Appendix F)

It was recommended that the Board of Trustees approves a contract between Michigan State University and *HAO Tech, LLC*, a company in which faculty member Dr. Gouliang Xing holds a financial interest.

Be it resolved that the Board of Trustees approves a license agreement with *HAO Tech, LLC*, consistent with earlier public notice given at a Board meeting and with the "License Agreement Term Sheet" now presented to the Board for inclusion in its minutes. (Appendix G)

It was recommended that the Board of Trustees approves a sponsored research agreement with *Metna Co.*, a company in which faculty member Dr. Parviz Soroushian holds a financial interest.

Be it resolved that the Board of Trustees approves a sponsored research agreement with *Metna Co.* consistent with earlier public notice given at a Board meeting and with the "Sponsored Research Agreement Term Sheet" now presented to the Board for inclusion in its minutes. (Appendix H)

It was recommended that the Board of Trustees approve a contract between Michigan State University and Dr. Ryan O'Connor, an Assistant Professor in the Department of Physical Medicine and Rehabilitation.

Be it resolved that the Board of Trustees approves a purchase agreement with Dr. Ryan O'Connor consistent with earlier public notice given at a Board meeting and with the "Purchase Agreement Term Sheet" now presented to the Board for inclusion in its minutes. (Appendix I)

It was recommended that the Board of Trustees approve a contract between Michigan State University and *Shock EngineWorks, Inc.*, a company in which faculty member Dr. Norbert H. Mueller holds a financial interest.

Be it resolved that the Board of Trustees approve a patent license option agreement with *Shock EngineWorks, Inc.* consistent with earlier public notice given at a Board meeting and with the "Option Agreement Term Sheet" now presented to the Board for inclusion in its minutes. (Appendix J)

It was recommended that the Board of Trustees approve a contract between Michigan State University and *siRNAx, Inc.*, a company in which faculty member Dr. R. Michael Garavito holds a financial interest.

Be it resolved that the Board of Trustees approves a sponsored research agreement with *siRNAx, Inc.* consistent with earlier public notice given at a Board meeting and with the "Sponsored Research Agreement Term Sheet" now presented to the Board for inclusion in its minutes. (Appendix K)

It was recommended that the Board of Trustees approve a license termination and settlement agreement with *KTM Industries, Inc.*, a company in which faculty members Dr. Ramani Narayan and Dr. Marcos Dantus hold a financial interest.

Be it resolved that the Board of Trustees approves the execution of a license termination and settlement agreement with *KTM Industries, Inc.* consistent with earlier public notice given at a Board meeting and with the "License Termination and Settlement Agreement Term Sheet" now presented to the Board for inclusion in its minutes. (Appendix L)

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

THE BOARD VOTED to approve the resolutions.

C. Notice of Intent to Negotiate Contracts

Pursuant to State law, Trustee Byrum gave public notice of the University's intent to negotiate contracts with *Thermetrics, Inc.*, a Delaware corporation. (Appendix M)

Dr. Kirk Dolan, an associate professor in the Department of Food Science and Human Nutrition, and his family own or have options to buy an ownership interest of more than 1% of the company. Mr. Andy Tomaswick, a graduate assistant, and his family own or have options to buy an ownership interest of more than 1% of the company.

10. Audit Committee

Trustee Breslin advised that the Audit Committee had nothing to report.

11. Compensation Committee

Trustee Lyons presented the Trustee Compensation Committee Report.

Trustee Lyons reminded the MSU community that each year at this time, the Board of Trustees considers the President's compensation, consistent with section 4a of the employment agreement between President Simon and the Board. The Compensation Committee met for that purpose.

In June of this year, the Board conducted its annual evaluation of the President. At that time, the Trustees conveyed to President Simon their uniform support of her leadership of Michigan State University. Trustee Lyons stated that President Simon's leadership and dedication are widely recognized, both within and beyond the MSU community, and that she continues to excel on the Board-established performance criteria. As a result, the Board continues to believe that the retention of President Simon is critical to the University's future.

This year, the Compensation Committee recommends to the Board of Trustees a significant increase in President Simon's compensation. This increment would move her compensation into the top quartile of her Big Ten peers. The Committee believes this increase in compensation is important for several reasons.

Trustee Lyons noted that President Simon's base salary has not increased in seven years. Since 2007, she has asked that she not receive a salary increase because of the economic challenges faced by the State and the University. Given her exceptional performance and a more stable financial

outlook, a compensation increase this year is appropriate. At the end of this month, President Simon will have been MSU's president for ten years. She is currently the second longest serving Chief Executive among the 14 Big Ten presidents and chancellors. Many of President Simon's peers serve on corporate boards and, in doing so, receive substantial external compensation. President Simon has shunned these opportunities, instead focusing on public service opportunities that explicitly advance the interests of the University. President Simon, for example, is the Chairperson of the Executive Committee of the NCAA, the Vice Chair of the Association of American Universities, the Chair of the National Security Higher Education Advisory Board, the Chair of the Board of Directors of the Federal Reserve Bank of Chicago-Detroit Branch, and an executive committee member of the Council of Competitiveness.

President Simon's salary has historically been tens or even hundreds of thousands of dollars lower than those of the presidents of many other Big Ten institutions despite her tenure in the office and her many national leadership roles. In addition to these national leadership roles, President Simon has made extraordinary progress at MSU. Trustee Lyons noted the following examples:

- Construction of the Facility for Rare Isotope Beams, despite challenging financial circumstances,
- Increased momentum in driving the national rankings and reputation, not only of the University as a whole, but of many units within the University,
- Successfully developing a capital campaign that will empower the extraordinary work we are doing,
- Athletics programs that are succeeding in the classroom and on the field of play, and
- Development of a cutting-edge nationally recognized undergraduate program which has come to be called the "Neighborhoods", which helps students learn, grow and remain healthy where they live.

For these reasons, the Compensation Committee recommends to the Board of Trustees that President Simon's salary be raised to \$750,000. Further, the Committee recommends that President Simon's retention bonus be set at \$100,000, for a total compensation of \$850,000, which would place her in the top quartile of her Big Ten peers. The retention bonus will be paid by no later than January 31st of the subsequent year.

Finally, Trustee Lyons said that the Board applauds the commitment that Drs. Roy J. and Lou Anna K. Simon have made to give back to the University through their generous, regular and substantial financial contributions. Based on their current level of cash and estate giving, the

Simons are members of MSU's Wharton Society and Kedzie Society. The Simons' current cash gifts to MSU exceed \$1 million. They provide a tremendous example of philanthropy for Team MSU and the Spartan community.

Trustee Lyons concluded the Compensation Committee report by moving that the above terms be incorporated into President Simon's employment agreement and that the Chairperson of the Board of Trustees be authorized to sign an amendment to that employment agreement consistent with these terms on behalf of the Board.

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

President Simon stated that the Board's salary increase was not what she requested, but that she would concede to the wishes of the Board and continue to give back to the University.

Trustee Ferguson stated that President Simon has resisted receiving a salary increase, but that the Board could no longer allow her compensation to be outpaced by her peers, particularly give her exceptional record of accomplishing more with fewer resources than many of her counterparts.

THE BOARD VOTED to approve the motion.

12. Trustee Comments

Trustee Ferguson spoke of how proud he is of the University's position today and where it is headed.

Trustee Woodard said that she echoed Trustee Ferguson's comments . She extended her appreciation to Trustee Owen for her guidance and time served on the Board of Trustees.

Trustee Lyons echoed the previous comments and extended his best wishes to Trustee Owen and thanked her for her contributions.

Trustee Owen called on faculty liaison committee chairperson Deborah Moriarty to report to the board. Dr. Moriarty expressed her appreciation for Trustee Owen's support and dedication while serving on the faculty liaison committee. She also thanked President Simon for her commitment to the Relationship Violence and Sexual Misconduct Policy and for her strong and sensitive statement related to the fall commencement.

Trustee Byrum wished everyone a happy holiday season. She wished Trustee Owen her best going forward and congratulated Provost Youatt for receiving the ATHENA award.

Trustee Mosallam congratulated Provost Youatt for receiving the ATHENA award, extended well wishes to Trustee Owen and advised President Simon that her compensation increase is deserved for all of that she has done and continues to do for the University.

Trustee Perles advised Trustee Owen that she will be missed on the Board, congratulated Provost Youatt and gave accolades to President Simon.

Trustee Breslin thanked President Simon, her staff, the executive team and the faculty for all they do to move MSU forward. He extended his congratulations to Provost Youatt, expressed to Trustee Owen his appreciation for her work as a fellow Board member, congratulated Trustee Perles on his recent re-election to the Board and wished everyone a Happy Holiday.

Trustee Ferguson presented Trustee Owen with a resolution recognizing her for all of her work while serving on the Board of Trustees, her involvement with the community and her contributions to various State and national organizations. (Appendix N)

Vice President and Secretary Bill Beekman expressed his appreciation to Trustee Owen for her term on the board.

Student Liaison James Conwell thanked Trustee Owen for her advocacy on behalf of the students of MSU.

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

A. Fall Commencement Speaker George Will

Ms. Tamra Frei, a graduate student in the School of Social Work, as well as an intern for the Sexual Assault Program at MSU, expressed her concern about the increase in students receiving services through the Program over the past five years. She also shared concerns about lack of support for the Sexual Assault Program's in its efforts to assist individuals affected by sexual violence. Ms. Allison advised that there has not been a change in the number of staff for the Program in the past five years, while statistics prove that the number of individuals being served by the Program in that time has doubled. As a result, she feels that the students at MSU are negatively affected. She requested

that the Board continue its efforts to combat sexual assault by increasing support for the Sexual Assault Program.

Ms. Faith Perrenoud stated that George Will does not exemplify the values inherent in MSU's mission and requests that the University rescind Mr. Will's invitation to speak at Commencement. Ms. Perrenoud also said that students should not have to wait for lengthy legal proceedings to determine the validity of their case before they receive the medical attention they need. She asserted that the problem is less a lack of resources than a lack of caring.

Ms. Kyra Stephenson, president of the Sexual Assault Crisis Intervention Team, stated that MSU was the first university to establish a sexual assault program and is still the only university in the country to have an on-campus domestic violence shelter. She said that MSU programs are not able to keep up with demand and that the University is responsible for the well-being of its students and is failing. Ms. Jackson encourages the University to hire more sexual assault therapists to represent the diversity of the University's student population. MSU used to be a pioneer in this field and can be again. The University needs mandatory training in the SARV program for personnel and students. She indicated that the Title IX Office needs to have more accountability. She suggested including more students on task forces concerning sexual assault and relationship violence, stating that this issue affects everyone. New policies should be implemented to reflect that.

Mr. Spencer Perrenoud demanded that George Will's invitation to speak at Commencement be rescinded. He stated that having Mr. Will as a commencement speaker violates the mission of MSU.

14. Request to Adjourn

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

Respectfully submitted,



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

RESEARCH PRESENTATION

TO THE MSU BOARD OF TRUSTEES

DECEMBER 12, 2014

TYCE DEYOUNG
COLLEGE OF NATURAL SCIENCE

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

Tyce DeYoung is an Associate Professor in the Department of Physics and Astronomy (College of Natural Sciences). He received his PhD from the University of Wisconsin in 2001. Following postdoctoral appointments at UC Santa Cruz and the University of Maryland, he was appointed to the faculty of Penn State University in 2005, and moved to Michigan State in 2014. His research is focused on neutrino and gamma ray astrophysics, for which he received a Faculty Early Career Development award from the National Science Foundation, and he is presently the Deputy Spokesperson of the IceCube Collaboration. He is also interested in the application of new, research-based teaching methods to introductory physics courses.

The IceCube Neutrino Observatory

catching ghost particles at the South Pole

Tyce DeYoung
Department of Physics and Astronomy



The IceCube-PINGU Collaboration



The IceCube Collaboration is a consortium of 300 physicists from 44 institutions in 12 countries, who built and use the IceCube Neutrino Observatory at the U.S. South Pole Station. In the United States, support for IceCube comes from the National Science Foundation, which provided primary funding for the construction of IceCube along with funding agencies and private foundations in Germany, Sweden, Belgium, and other countries.

The Observatory is operated for the NSF by the University of Wisconsin. The Principal Investigator, responsible for the operation of the Observatory, is Francis Halzen of the University of Wisconsin. A Spokesperson elected by the Collaboration oversees all scientific activities related to IceCube; the current Spokesperson is Olga Botner (Uppsala University) and Tyce DeYoung (Michigan State) is the Deputy Spokesperson.

Neutrinos – Nature's “Ghost Particles”

- Neutrinos are fundamental particles, but very strange
- A million times lighter than any other known particle
- Barely interact with other matter
- “Oscillate” between the three different types – an electron neutrino will spontaneously change into a tau neutrino

	Fermions			Bosons	
Quarks	u up	c charm	t top	γ photon	Force carriers
	d down	s strange	b bottom	Z Z boson	
Leptons	ν_e electron neutrino	ν_μ muon neutrino	ν_τ tau neutrino	W W boson	
	e electron	μ muon	τ tau	g gluon	
				Higgs boson	

Source: AAAS

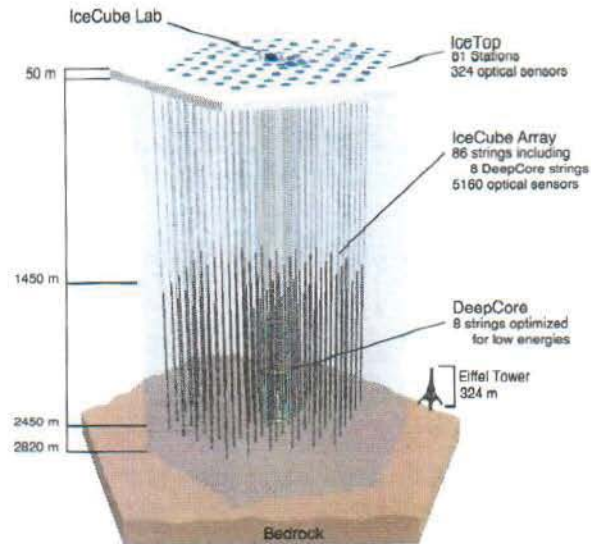
At its most basic level, nature contains 12 known *fundamental* particles – particles that are not in turn made up of smaller particles – plus five ‘bosons’ that generate forces and mass. Three of the fundamental particles are neutrinos, which are strangely different from the others:

- Neutrinos are at least a million times less massive than the other particles – their actual mass is so low it has not yet been measured.
- Neutrinos only rarely interact with matter, and can easily pass through the Earth or Sun without being affected at all. Trillions of them pass through our bodies every second – mostly produced by the Sun or left over from the Big Bang.
- Neutrinos undergo “flavor oscillations” changing one type into another – a neutrino produced as a muon neutrino may be transformed into a tau neutrino before being detected, for example.

Nobel Prize winner Frederick Reines called neutrinos “the most tiny quantity of reality ever imagined by a human being.” Understanding the relationship of neutrinos to the other particles, and their unusual properties, is a primary goal of fundamental particle physics.

Ice Fishing for Neutrinos

- Neutrinos only rarely interact with matter
 - Need a big target and a lot of patience to see them
- IceCube monitors a billion tons of the ultra-transparent ice below the South Pole
 - 86 'strings' of light detectors watch for faint flashes of light produced when a neutrino happens to hit a proton in the ice

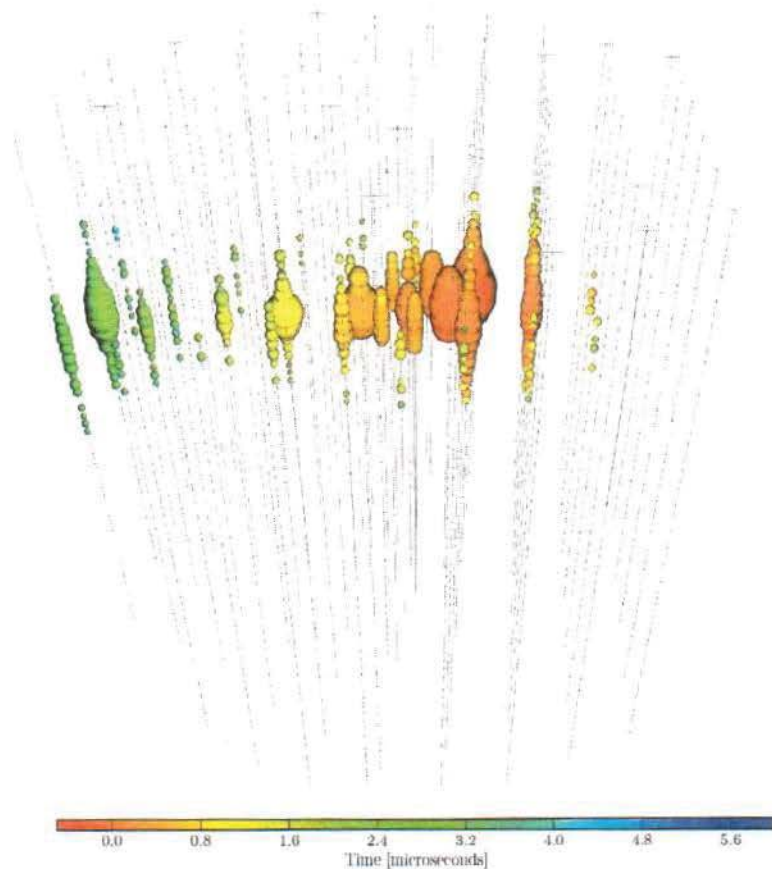


IceCube monitors a cubic kilometer of the Antarctic ice cap below the U.S. Amundsen-Scott South Pole Station, watching for light produced when a neutrino happens to interact with a proton or neutron in the ice. This light is detected by optical sensors known as Digital Optical Modules (DOMs), autonomous computer-controlled devices which are frozen into the ice cap. They are buried more than a mile under the surface of the ice, and connected to the main IceCube Laboratory building on the surface by electrical cables, usually called 'strings.'

Each of IceCube's 86 strings holds 60 DOMs, separated from each other by distances of 17 m (56 ft) along the bottom kilometer (0.6 miles) of each string. Strings of modules are implanted in the ice by melting columns of water, 60 cm (2 ft) in diameter and 2,450 m (1.5 miles) deep. The strings are lowered into the water column before the ice refreezes, locking them permanently in place. IceCube's hot water "drill" was a \$10 million project in its own right, and was featured on an episode of the History Channel's *Modern Marvels*.



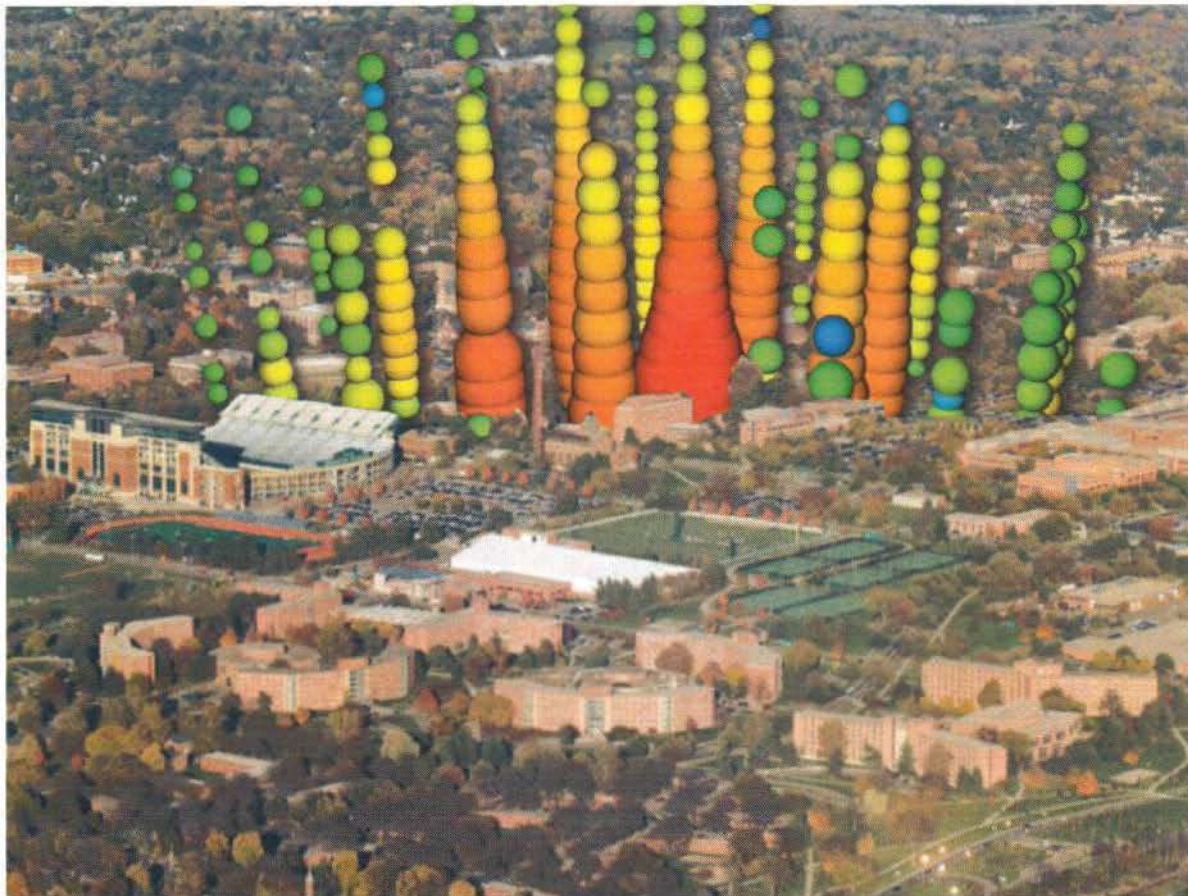
Building and operating IceCube at the South Pole offers unique challenges. The U.S. South Pole Station offers excellent infrastructure, but nearly all equipment, food, and fuel must be flown in by special ski-equipped military cargo aircraft. Due to the cold temperatures, the station is only accessible during daylight (which lasts from late October until February), and even then the temperature is typically between -10° and -40° F. During the summer, the Station is home to nearly 250 scientists and support staff, but less than 40 stay over the winter.



When a neutrino interacts with the ice in or near the IceCube detector, it produces a characteristic pattern of light in the three-dimensional array of Digital Optical Modules (DOMs). This picture shows one such event: the colored dots represent DOMs which detected light, with the size indicating the amount of light detected and the colors showing the time the light arrived (starting at red and running through the spectrum to green and blue).

Neutrinos can be identified by the fact that they either travel upward through the Earth before entering the detector, or (as in this case) enter the detector invisibly before interacting inside the array of DOMs.

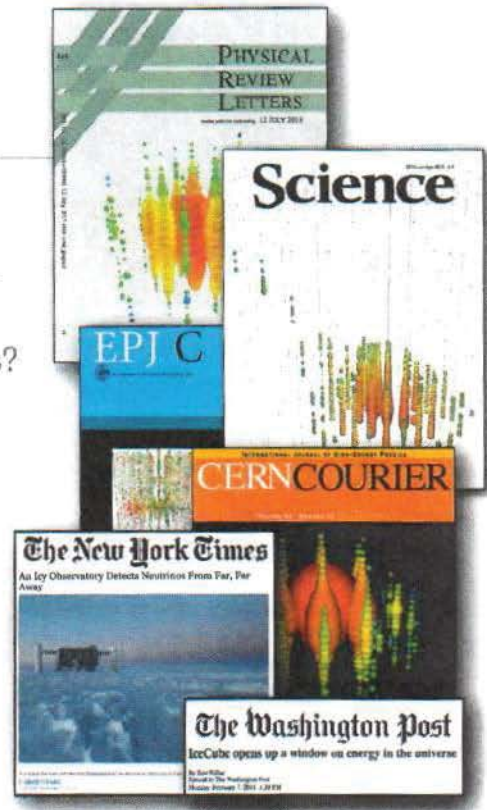
This event was produced by a muon neutrino that entered the detector from the right, leaving no trace until it interacted with the ice near the center of the detector. Other particles produced in the interaction traveled from right to left, exiting the detector near the largest green dots. Computer analysis of the patterns of detected light can determine the direction, energy, and flavor of the original neutrino.



The scale of IceCube is so large, it is difficult to envision. Here, an electron neutrino event seen by IceCube is overlaid to scale on a picture of the MSU campus. The energy deposited by the neutrino was about 100 times the maximum energy achievable at the Large Hadron Collider in Geneva, the world's most powerful particle accelerator. Light from the event was detected by IceCube's sensors through more than 400 yards of solid ice – the event was roughly as bright as a football stadium light, although only for a few nanoseconds.

The Science of IceCube

- Understanding the nature of matter
 - *How do neutrinos behave? Why are they so different from other particles, like the electrons and quarks that make up atoms?*
 - *What is the “dark matter” that makes up a quarter of the Universe?*
- Learning about our Universe
 - The Earth is constantly bombarded by relativistic particles from beyond our solar system – *where do they come from?*



IceCube is a multipurpose instrument with a broad scientific program including:

Particle physics – understanding the fundamental structure of matter

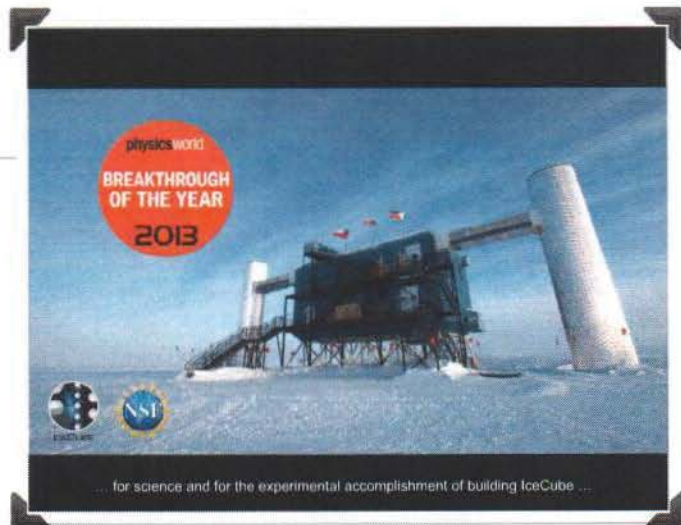
- The reason(s) for neutrinos to have such odd properties are unknown, and are a major focus of current particle physics research around the world. Precision measurements of neutrino behavior made by IceCube may shed light on these questions.
- In addition, IceCube searches for neutrinos produced by the “dark matter” that makes up over a quarter of the mass/energy in the Universe (around four times as much as all of the planets, stars, galaxies, and other “normal” matter we understand). The nature of dark matter is completely unknown, and is one of the outstanding questions of high energy physics.

Astrophysics – understanding the universe around us

- For over 100 years, we have known that the Earth is constantly under bombardment by “cosmic rays” – relativistic particles produced somewhere in the cosmos, some with energies millions of times higher than we can produce at the world’s most powerful particle accelerators. The origins of these particles remain unknown a century later, but wherever their sources, neutrinos detectable by IceCube should be produced along with them. Neutrino astronomy may finally reveal the origins of the highest energy cosmic rays.
- Because neutrinos interact so weakly with matter, they can escape from the densest, most energetic regions of astrophysical systems such as supernovae, colliding neutron stars, accretion disks around supermassive black holes, and starburst galaxies – regions which cannot be observed by conventional astronomy. Neutrino astronomy will open a new window into these objects, letting us probe astrophysics at energy scales otherwise unobservable.

Status and Plans

- IceCube was completed in December 2010
 - Seven year construction project, completed on time and on budget
 - Total project cost \$279M (primarily from the Natl. Science Foundation)



- Already producing important results across a broad spectrum of astrophysics and fundamental particle physics
- Planning underway for an expansion of the facility: IceCube GenTwo
 - Scope comparable to the original project, but greatly enhanced scientific capabilities – Michigan State will play a major role in this effort

Construction of the IceCube Neutrino Observatory lasted from 2004 to 2010. It is one of NSF's flagship projects, and was delivered on time and on budget at a cost of \$279 million (of which the U.S. contributed \$242 million).

Results from IceCube have been published in top scientific journals, including *Science*, *Nature*, *Physical Review Letters*, and the *Astrophysical Journal*. IceCube has also been featured in many publications for the general public, including the *New York Times*, the *Washington Post*, *Scientific American*, and the *Smithsonian Magazine*. The UK's Institute of Physics recognized IceCube with its *Physics World Breakthrough of the Year* for 2013.

The IceCube Collaboration is currently developing plans for an improved detector at the South Pole, called *IceCube GenTwo*. This project will be proposed to the NSF and international partner agencies in the coming year, and will be comparable in scale to the original IceCube facility. By leveraging the existing investment, IceCube GenTwo will greatly enhance IceCube's capabilities for both particle physics and astrophysics.

The Michigan State IceCube group has major responsibilities in IceCube GenTwo and will play a prominent role in the project.

MSU participants:

Tyce DeYoung, Kendall Mahn (faculty)
Joshua Hignight, J. P. de André (postdoctoral researchers)
Dean Shooltz, Michael Nila (technical staff)
Neil Patel-Murray, Robert Nolan (undergraduates)



APPENDIX B

RESOLUTION OF THE BOARD OF TRUSTEES OF
MICHIGAN STATE UNIVERSITY
APPROVING A CONSTRUCTION AND COMPLETION
ASSURANCE AGREEMENT, A CONVEYANCE OF
PROPERTY, A LEASE AND AN EASEMENT AGREEMENT,
IF NECESSARY, FOR THE MICHIGAN STATE UNIVERSITY
BIO-ENGINEERING FACILITY

A RESOLUTION of the Board of Trustees of Michigan State University (i) approving (a) a form of construction and completion assurance agreement (the "Construction Agreement"), by and among the State Building Authority (the "Authority"), the State of Michigan (the "State") and the Board of Trustees of Michigan State University, a Michigan constitutional body corporate (the "Educational Institution"), providing for the rights, duties and obligations of the Authority, the State and the Educational Institution with respect to the Educational Institution's Bio-Engineering Facility and the site therefor (the "Facility") during the construction, renovation and/or equipping of the Facility and prior to the conveyance of the Facility to the Authority, (b) the conveyance of the Facility to the Authority, (c) a lease (the "Lease"), by and among the Authority, the Educational Institution and the State, for the purpose of leasing the Facility to the State and the Educational Institution and (d) an easement agreement (the "Easement Agreement") between the Authority and the Educational Institution, if necessary in connection with the entering into of the Lease, and (ii) providing for other matters related thereto.

WHEREAS, the Authority has been incorporated under and pursuant to the provisions of Act No. 183, Public Acts of Michigan, 1964, as amended ("Act 183"), for the purpose of acquiring, constructing, furnishing, equipping, owning, improving, enlarging, operating, mortgaging and maintaining buildings, necessary parking structures or lots and facilities, and sites therefor, for the use of the State, including institutions of higher education created pursuant to Section 4, 5, 6 or 7 of Article 8 of the Michigan Constitution of 1963 (the "State Constitution"), or any of its agencies; and

WHEREAS, the Educational Institution has been maintained and created pursuant to Sections 4 and 5 of Article 8 of the State Constitution; and

WHEREAS, the State and the Educational Institution desire that the Authority finance the acquisition, construction, renovation and/or equipping of the Facility in consideration of

(i) the Educational Institution granting a license to the Authority to enter upon the site of the Facility (the "Site") in order to undertake such construction, renovation and/or equipping, (ii) the Educational Institution undertaking on behalf of the Authority the oversight of such construction, renovation and/or equipping and (iii) the Educational Institution conveying the Facility to the Authority on or prior to the date of its completion, and the Authority is willing to provide such financing in consideration of the items described above; and

WHEREAS, in accordance with the Construction Agreement, the State and the Educational Institution desire that the Authority acquire the Facility on or prior to the date of its completion, and lease the same to the State and the Educational Institution, and the Authority is willing to acquire the Facility and lease the same to the State and the Educational Institution; and

WHEREAS, the Site is presently owned by the Educational Institution, the Facility will be constructed by the Educational Institution on behalf of the Authority, and it is intended that the Site and the Facility be conveyed to the Authority by the Educational Institution; and

WHEREAS, the acquisition of the Facility by the Authority for use by and lease to the Educational Institution and the State is necessary in order for the State and the Educational Institution to carry out necessary governmental functions and to provide necessary services to the people of the State as mandated or permitted by constitution and law, and the use of Act 183 to accomplish such acquisition represents the most practical means to that end at the lowest cost to the State and the Educational Institution; and

WHEREAS, Section 7 of Act 183 provides that the Lease shall be approved by the Authority, by the State Administrative Board of the State and as provided in an appropriations act and if the Lease is for an institution of higher education existing or created pursuant to Section 4, 5, 6 or 7 of Article 8 of the State Constitution, then in addition, the Lease shall be authorized by the institution of higher education and signed by its authorized officials and, accordingly, it is necessary that the Educational Institution authorize and approve the Lease; and

WHEREAS, if it is determined that (i) the Authority will require an easement from a public road to the Facility over real property owned by the Educational Institution so that the Authority has access to the Facility, (ii) the Educational Institution will require for future use certain easements through the Facility, (iii) the Authority and the Educational Institution will require an agreement to share a common structural wall or (iv) the Authority will require an easement over real property owned by the Educational Institution so that the Authority has

sufficient parking available in connection with the reasonable use of the Facility, then in order to meet any such requirement, it may be necessary for authorized officials of the Educational Institution to approve an Easement Agreement to provide for such easements or the sharing of a common structural wall, as the case may be;

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF TRUSTEES OF THE EDUCATIONAL INSTITUTION THAT:

1. The plans for the Facility, as filed with the Educational Institution, are hereby approved.

2. The Educational Institution hereby authorizes and approves the Construction Agreement in substantially the form attached as Attachment A, and any one of the following then seated officials of the Educational Institution: the President, the Executive Vice President for Administrative Services, the Vice President for Finance and Treasurer and the Director of Investments and Financial Management are hereby authorized and directed to execute and deliver, at the appropriate time, the Construction Agreement in substantially the form attached as Attachment A for and on behalf of the Educational Institution. Such officials are hereby authorized to approve such changes in and modifications to the Construction Agreement as do not materially adversely affect the Educational Institution.

3. The conveyance of the Site and the Facility to the Authority in accordance with the Construction Agreement is hereby approved, and any one of the following then seated officials of the Educational Institution: the President, the Executive Vice President for Administrative Services, the Vice President for Finance and Treasurer and the Director of Investments and Financial Management are hereby authorized and directed to execute and deliver a warranty deed in substantially the form attached as Attachment B and bills of sale to accomplish such conveyance in such form as may be from time to time approved by such officials.

4. The Educational Institution hereby authorizes and approves the Lease in substantially the form attached as Attachment C, and any one of the following then seated officials of the Educational Institution: the President, the Executive Vice President for Administrative Services, the Vice President for Finance and Treasurer and the Director of Investments and Financial Management are hereby authorized and directed to execute and deliver the Lease in accordance with the Construction Agreement and in substantially the form

attached as Attachment C for and on behalf of the Educational Institution and such officials are hereby designated as authorized officials of the Educational Institution for purposes of Section 7 of Act 183. Such officials are hereby authorized to approve such changes in and modifications to the Lease as do not materially alter the substance and intent thereof as expressed in the Lease and the request for action submitted to the Board of Trustees in connection therewith; provided such officials are not hereby authorized to approve a change in the Lease with respect to the range of rental, the description of the Facility or the material financial obligations of the Educational Institution contained in the Lease approved herein. The Educational Institution hereby determines that the maximum rental in the amount described below is reasonable and the authorized officials are hereby authorized to approve in the Lease, as executed, rental in annual amounts determined by the final appraisal of "True Rental," but not exceeding \$2,690,000 in any 12-month period and a lease term of not exceeding 40 years.

5. If in connection with the entering into of the Lease, and any one of the following then seated officials of the Educational Institution: the President, the Executive Vice President for Administrative Services, the Vice President for Finance and Treasurer and the Director of Investments and Financial Management determine that (i) the Authority will require an easement from a public road to the Facility over real property owned by the Educational Institution so that the Authority has access to the Facility, (ii) the Educational Institution will require for future use certain easements through the Facility, (iii) the Authority and the Educational Institution will require an agreement to share a common structural wall or (iv) the Authority will require an easement over real property owned by the Educational Institution so that the Authority has sufficient parking available in connection with the reasonable use of the Facility, then such officials are hereby authorized and directed to execute and deliver an Easement Agreement if necessary in order to meet any such requirement.

6. The following then seated officials of the Educational Institution: the President, the Executive Vice President for Administrative Services, the Vice President for Finance and Treasurer and the Director of Investments and Financial Management are hereby severally authorized and directed to take or cause to be taken all other actions, including, without limitation, making requests of and approving requests from the Authority and the State and signing certificates, documents or other instruments, each on behalf of the Educational

Institution, as they deem necessary or desirable under the circumstances to accomplish the purposes of the transactions authorized in this Resolution.

7. The Educational Institution further confirms its obligations to perform the duties and obligations specified in the Construction Agreement (only upon its execution by authorized officials of the Educational Institution) and the Lease (only upon its execution by authorized officials of the Educational Institution) and acknowledges that such obligations do not depend upon passage of title to the Facility to the Educational Institution without consideration upon termination of the Lease. The Educational Institution hereby recognizes that it would execute and deliver the Lease even if title to the Facility would not pass upon termination of the Lease.

8. The Educational Institution recognizes that the Authority shall pay for costs of the Facility in an amount not in excess of \$29,999,800.

9. All ordinances, resolutions and orders or parts thereof in conflict with the provisions of this Resolution are, to the extent of such conflict, hereby waived.

10. This Resolution shall be effective immediately upon its adoption.

MICHIGAN STATE UNIVERSITY

December 1, 2014

MEMORANDUM

To: Trustee Policy Committee
 From: June Youatt, Provost *JPY*
 Re: Approval of Contract Terms: *Biophotonic Solutions, Inc.*

Recommendation:

The Trustee Policy Committee recommends that the Board of Trustees approve a contract between Michigan State University and *Biophotonic Solutions, Inc.*, a company in which faculty member Dr. Marcos Dantus holds a financial interest.

Resolution:

BE IT RESOLVED that the Board of Trustees approves a purchase agreement with *Biophotonic Solutions, Inc.* consistent with earlier public notice given at a Board meeting and with the "Purchase Agreement Term Sheet" now presented to the Board for inclusion in its minutes.

Background:

In compliance with State law, public notice of the University's intent to negotiate contracts with *Biophotonic Solutions, Inc.*, a Michigan corporation based in East Lansing, was given at the Board of Trustees meeting on October 10, 2003. The terms of a purchase agreement are now being presented for approval.

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.*

The attached "Purchase Agreement Term Sheet" summarizes the agreement that MSU has negotiated with *Biophotonic Solutions, Inc.*

cc: Trustee Finance Committee
 President Lou Anna K. Simon
 Executive Vice President Satish Udpa
 Vice President and Secretary Bill Beekman
 Vice President Steve Hsu



OFFICE OF THE PROVOST

Michigan State University
 Hannah Administration Building
 426 Auditorium Road, Room 430
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 provost.msu.edu

Vice President Robert A. Noto
Faculty Conflict of Interest Officer Brian Mattes
Deputy General Counsel Kristine Zayko
Assistant General Counsel Nate Stuart

PURCHASE AGREEMENT TERM SHEET

Party: Biophotonic Solutions, Inc.

Agreement: MSU to purchase scientific equipment (a spatial light modulator)

Payment Terms: \$15,000 to Biophotonic Solutions, Inc.

Services Provided: By MSU to Biophotonic Solutions, Inc.: None
By Biophotonic Solutions, Inc. to MSU: None

**Use of University
Facilities/Personnel:** None

Organization Type: Michigan corporation based in East Lansing

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.

Attachment 2.b

MICHIGAN STATE UNIVERSITY

December 1, 2014

MEMORANDUM

To: Trustee Policy Committee

From: June Youatt, Provost *JPY*

Re: Approval of Contract Terms: *CourseWeaver, Inc.*

Recommendation:

The Trustee Policy Committee recommends that the Board of Trustees approve a contract between Michigan State University and *CourseWeaver, Inc.*, a company in which faculty members Dr. Gerd Kortemeyer and Dr. Wolfgang Bauer hold a financial interest.

Resolution:

BE IT RESOLVED that the Board of Trustees approves a sponsored research agreement with *CourseWeaver, Inc.*, consistent with earlier public notice given at a Board meeting and with the "Sponsored Research Agreement Term Sheet" now presented to the Board for inclusion in its minutes.

Background:

In compliance with State law, public notice of the University's intent to negotiate contracts with *CourseWeaver, Inc.*, a Delaware corporation based in East Lansing, Michigan, was given at the Board of Trustees meeting on September 13, 2013. The terms of a sponsored research agreement are now being presented for approval.

Dr. Gerd Kortemeyer, an Associate Professor in the Department of Physics & Astronomy, and his family own or have options to buy an ownership interest of more than 1% of the company. Dr. Wolfgang Bauer, Senior Consultant to the Executive Vice President for Administrative Services and a Professor in the Department of Physics & Astronomy, and his family own or have options to buy an ownership interest of more than 1% of the company.

The attached "Sponsored Research Agreement Term Sheet" summarizes the agreement that MSU has negotiated with *CourseWeaver, Inc.*

cc: Trustee Finance Committee
President Lou Anna K. Simon
Executive Vice President Satish Udpa
Vice President and Secretary Bill Beekman
Vice President Steve Hsu



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Vice President Robert A. Noto
Faculty Conflict of Interest Officer Brian Mattes
Deputy General Counsel Kristine Zayko
Assistant General Counsel Nate Stuart

SPONSORED RESEARCH AGREEMENT TERM SHEET

Party: CourseWeaver, Inc.

Contracts: Sponsored research agreement: "Michigan State University LON CAPA Support, Maintenance, and Research Agreement"

Term: From January 1, 2015 to December 31, 2015

Payment Terms: \$176,545

Services Provided: By MSU to CourseWeaver: research regarding the online learning management system LON-CAPA (Learning Online Network with Computer-Assisted Personalized Approach) and services in furtherance of CourseWeaver's provision of support services for MSU's LON CAPA system as provided under a separate agreement approved by the Board of Trustees on December 13, 2013

By CourseWeaver to MSU: none

Use of University Facilities/Personnel: Dr. Gerd Kortemeyer, an Associate Professor in the Department of Physics & Astronomy, and Mr. Stuart Raeburn, a Research Specialist in the Department of Physics & Astronomy, will engage in research and provide the services described above.

Organization Type: Delaware corporation based in East Lansing

Personnel Interest: Dr. Gerd Kortemeyer, an Associate Professor in the Department of Physics & Astronomy, and his family own or have options to buy an ownership interest of more than 1% of the company. Dr. Wolfgang Bauer, Senior Consultant to the Executive Vice President for Administrative Services and a Professor in the Department of Physics & Astronomy, and his family own or have options to buy an ownership interest of more than 1% of the company

**MICHIGAN STATE
UNIVERSITY**

December 1, 2014

MEMORANDUM

To: Trustee Policy Committee
From: June Youatt, Provost *JY*
Re: Approval of Contract Terms: *Drawbridge, Inc.*

Recommendation:

The Trustee Policy Committee recommends that the Board of Trustees approve a contract between Michigan State University and *Drawbridge, Inc.*, a company in which faculty members Dr. Jeffrey Grabill and Dr. William Hart-Davidson hold a financial interest.

Resolution:

BE IT RESOLVED that the Board of Trustees approves a software license, support and hosting agreement with *Drawbridge, Inc.* consistent with earlier public notice given at a Board meeting and with the "License Agreement Term Sheet" now presented to the Board for inclusion in its minutes.

Background:

In compliance with State law, public notice of the University's intent to negotiate contracts with *Drawbridge, Inc.*, a Michigan corporation based in East Lansing, was given at the Board of Trustees meeting on September 9, 2011. The terms of a software license, support and hosting agreement are now being presented for approval.

Dr. Jeffrey Grabill, a Professor in the Department of Writing, Rhetoric and American Cultures, and his family own or have options to buy an ownership interest of more than 1% of the company. Dr. William Hart-Davidson, an Associate Professor in the Department of Writing, Rhetoric and American Cultures, and his family own or have options to buy an ownership interest of more than 1% of the company. Dr. Grabill and Dr. Hart-Davidson are also board members of the company.

The attached "License Agreement Term Sheet" summarizes the agreement that MSU has negotiated with *Drawbridge, Inc.*

cc: Trustee Finance Committee
President Lou Anna K. Simon

**OFFICE OF THE
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Vice President and Secretary Bill Beekman
Vice President Steve Hsu
Vice President Robert A. Noto
Faculty Conflict of Interest Officer Brian Mattes
Deputy General Counsel Kristine Zayko
Assistant General Counsel Nate Stuart

LICENSE AGREEMENT TERM SHEET

Party: Drawbridge, Inc.

Agreement: Drawbridge to license Eli Review writing instruction software service to MSU, and provide support and hosting of the software

Term: From August 28, 2014 through August 27, 2017

Payment Terms: \$40,000 for the period of August 28, 2014 to August 27, 2015
\$42,000 for the period of August 28, 2015 to August 27, 2016
\$44,100 for the period of August 28, 2016 to August 27, 2017

Services Provided: By MSU to Drawbridge, Inc.: None

By Drawbridge, Inc. to MSU: Drawbridge will provide hosting services, customer service and technical support to MSU with respect to problems regarding access and/or use of Eli Review writing instruction software.

Use of University Facilities/Personnel: None

Organization Type: Michigan corporation based in East Lansing

Personnel Interest: Dr. Jeffrey Grabill, a Professor in the Department of Writing, Rhetoric and American Cultures, and his family own or have options to buy an ownership interest of more than 1% of the company. Dr. William Hart-Davidson, an Associate Professor in the Department of Writing, Rhetoric and American Cultures, and his family own or have options to buy an ownership interest of more than 1% of the company. Dr. Grabill and Dr. Hart-Davidson are also board members of the company.

Attachment 2.d

MICHIGAN STATE UNIVERSITY

December 1, 2014

MEMORANDUM

To: Trustee Policy Committee

From: June Youatt, Provost *JPY*

Re: Approval of Contract Terms: *Guangzhou Wolbaki Biotech Company Ltd.*

Recommendation:

The Trustee Policy Committee recommends that the Board of Trustees approve a contract between Michigan State University and *Guangzhou Wolbaki Biotech Company Ltd.*, a company in which faculty member Dr. Zhiyong Xi holds a financial interest.

Resolution:

BE IT RESOLVED that the Board of Trustees approves a sponsored research agreement with *Guangzhou Wolbaki Biotech Company Ltd.*, consistent with earlier public notice given at a Board meeting and with the "Sponsored Research Agreement Term Sheet" now presented to the Board for inclusion in its minutes.

Background:

In compliance with State law, public notice of the University's intent to negotiate contracts with *Guangzhou Wolbaki Biotech Company Ltd.*, a company based in Guangzhou, Guangdong, China, was given at the Board of Trustees meeting on October 24, 2014. The terms of a sponsored research agreement are now being presented for approval.

Dr. Zhiyong Xi, an Associate Professor in the Department of Microbiology & Molecular Genetics, and his family own or have options to buy an ownership interest of more than 1% of the company. Dr. Xi is also an officer of *Guangzhou Wolbaki Biotech Company Ltd.*

The attached "Sponsored Research Agreement Term Sheet" summarizes the agreement that MSU has negotiated with *Guangzhou Wolbaki Biotech Company Ltd.*

cc: Trustee Finance Committee
 President Lou Anna K. Simon
 Executive Vice President Satish Udpa
 Vice President and Secretary Bill Beekman
 Vice President Steve Hsu
 Vice President Robert A. Noto
 Faculty Conflict of Interest Officer Brian Mattes



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Deputy General Counsel Kristine Zayko
Assistant General Counsel Nate Stuart

SPONSORED RESEARCH AGREEMENT TERM SHEET

Party: Guangzhou Wolbaki Biotech Company Ltd.

Contracts: Sponsored research agreement: "Improved Wolbachia Transinfection for Challenging Host Systems"

Term: From December 16, 2014 to December 15, 2016

Payment Terms: \$316,000

Services Provided: By MSU to GWBC: research to study how the endosymbiotic bacterium known as wolbachia (intracellular alphaproteobacteria) is regulated in novel hosts and how a transinfection technique can be improved to facilitate the formation of a novel symbiosis in difficult biological systems

By GWBC to MSU: none

Use of University Facilities/Personnel: Dr. Zhiyong Xi, an Associate Professor in the Department of Microbiology and Molecular Genetics, will engage in research and provide the services described above.

Organization Type: Chinese company based in Guangzhou, China

Personnel Interest: Dr. Zhiyong Xi, an Associate Professor in the Department of Microbiology and Molecular Genetics, and his family own or have options to buy an ownership interest of more than 1% of the company.

Attachment 2.e

MICHIGAN STATE UNIVERSITY

December 1, 2014

MEMORANDUM

To: Trustee Policy Committee
 From: June Youatt, Provost *JY*
 Re: Approval of Contract Terms: *HAO Tech, LLC*

Recommendation:

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

Resolution:

BE IT RESOLVED that the Board of Trustees approves a license agreement with *HAO Tech, LLC*, consistent with earlier public notice given at a Board meeting and with the "License Agreement Term Sheet" now presented to the Board for inclusion in its minutes.

Background:

In compliance with State law, public notice of the University's intent to negotiate contracts with *HAO Tech, LLC*, a Michigan limited liability company, was given at the Board of Trustees meeting on October 24, 2014. The terms of a license agreement are now being presented for approval.

Dr. Gouliang Xing, an Associate Professor in the Department of Computer Science and Engineering, and his family own or have options to buy an ownership interest of more than 1% of the company. Dr. Xing is also a member of *HAO Tech, LLC*.

The attached "License Agreement Term Sheet" summarizes the agreement that MSU has negotiated with *HAO Tech, LLC*.

cc: Trustee Finance Committee
 President Lou Anna K. Simon
 Executive Vice President Satish Udpa
 Vice President and Secretary Bill Beekman
 Vice President Steve Hsu
 Vice President Robert A. Noto
 Faculty Conflict of Interest Officer Brian Mattes
 Deputy General Counsel Kristine Zayko
 Assistant General Counsel Nate Stuart

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LICENSE AGREEMENT TERM SHEET

Party: HAO Tech, LLC

License: Exclusive license on copyright to computer code in the field of sleep monitoring smart phone app for the consumer market

Term: Ten years from the effective date of the agreement

Technology: MSU Invention Disclosure No. TEC2014-0044 "iSleep: Unobtrusive Sleep Monitoring System Using Smartphones"

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

Technology's Potential Commercial Utilization: Sleep monitoring for individual well-being

Payment Terms: Equity position of 5% in HAO Tech, LLC; payment of a running royalty of 5% on net sales and related advertising income; 15% on all sublicensing revenues

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

Use of University Facilities/Personnel: None

Organization Type: Michigan limited liability company

Personnel Interest: Dr. Gouliang Xing, an Associate Professor in the Department of Computer Science and Engineering, and his family own or have options to buy an ownership interest of more than 1% of the company. Dr. Xing is also a member of HAO Tech, LLC.

MICHIGAN STATE UNIVERSITY

December 1, 2014

MEMORANDUM

To: Trustee Policy Committee
 From: June Youatt, Provost *JY*
 Re: Approval of Contract Terms: *Metna Co.*

Recommendation:

The Trustee Policy Committee recommends that the Board of Trustees approve a contract between Michigan State University and *Metna Co.*, a company in which faculty member Dr. Dr. Parviz Soroushian holds a financial interest.

Resolution:

BE IT RESOLVED that the Board of Trustees approves a sponsored research agreement with *Metna Co.*, consistent with earlier public notice given at a Board meeting and with the "Sponsored Research Agreement Term Sheet" now presented to the Board for inclusion in its minutes.

Background:

In compliance with State law, public notice of the University's intent to negotiate contracts with *Metna Co.*, a Delaware corporation based in Lansing, Michigan, was given at the Board of Trustees meeting on January 27, 2012. The terms of a sponsored research agreement are now being presented for approval.

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 Co.*

The attached "Sponsored Research Agreement Term Sheet" summarizes the agreement that MSU has negotiated with *Metna Co.*

cc: Trustee Finance Committee
 President Lou Anna K. Simon
 Executive Vice President Satish Udpa
 Vice President and Secretary Bill Beekman
 Vice President Steve Hsu
 Vice President Robert A. Noto
 Faculty Conflict of Interest Officer Brian Mattes



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Deputy General Counsel Kristine Zayko
Assistant General Counsel Nate Stuart

SPONSORED RESEARCH AGREEMENT TERM SHEET

Party: Metna Co.

Contracts: Sponsored research agreement subcontract: "(STTR Phase II) Ultra-High Performance Concrete"

Term: From the effective date of the agreement to October 31, 2016

Payment Terms: Up to \$225,000; \$110,527 from the effective date through October 31, 2015; incremental funding in the amount of \$114,473 from November 1, 2015 through October 31, 2016 is expected but not guaranteed

Services Provided: By MSU to Metna: testing and evaluation of ultra-high performance concrete
By Metna to MSU: none

Use of University Facilities/Personnel: Dr. Ventkatesh Kodur, a Professor in the Department of Civil and Environmental Engineering, will engage in research and provide the services described above.

Organization Type: Delaware corporation based in Lansing

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.

Attachment 2.h

MICHIGAN STATE UNIVERSITY

December 1, 2014

MEMORANDUM

To: Trustee Policy Committee

From: June Youatt, Provost

Re: Approval of Contract Terms: *Shock EngineWorks, Inc.* *JY*

Recommendation:

The Trustee Policy Committee recommends that the Board of Trustees approve a contract between Michigan State University and *Shock EngineWorks, Inc.*, a company in which faculty member Dr. Norbert H. Mueller holds a financial interest.

Resolution:

BE IT RESOLVED that the Board of Trustees approves a patent license option agreement with *Shock EngineWorks, Inc.*, consistent with earlier public notice given at a Board meeting and with the "Option Agreement Term Sheet" now presented to the Board for inclusion in its minutes.

Background:

In compliance with State law, public notice of the University's intent to negotiate contracts with *Shock EngineWorks, Inc.*, a Delaware corporation based in East Lansing, Michigan, was given at the Board of Trustees meeting on October 25, 2013. The terms of a patent license option agreement are now being presented for approval.

Dr. Norbert H. Mueller, an Associate Professor in the Department of Mechanical Engineering, and his family own or have options to buy an ownership interest of more than 1% of the company. Dr. Mueller may also serve as an officer of *Shock EngineWorks, Inc.*

The attached "Option Agreement Term Sheet" summarizes the agreement that MSU has negotiated with *Shock EngineWorks, Inc.*

cc: Trustee Finance Committee
 President Lou Anna K. Simon
 Executive Vice President Satish Udpa
 Vice President and Secretary Bill Beekman
 Vice President Steve Hsu
 Vice President Robert A. Noto
 Faculty Conflict of Interest Officer Brian Mattes



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Deputy General Counsel Kristine Zayko
Assistant General Counsel Nate Stuart

Attachment 2.g

MICHIGAN STATE UNIVERSITY

December 1, 2014

MEMORANDUM

To: Trustee Policy Committee

From: June Youatt, Provost *JY*

Re: Approval of Contract Terms: *Dr. Ryan O'Connor*

Recommendation:

The Trustee Policy Committee recommends that the Board of Trustees approve a contract between Michigan State University and Dr. Ryan O'Connor, an Assistant Professor in the Department of Physical Medicine and Rehabilitation.

Resolution:

BE IT RESOLVED that the Board of Trustees approves a purchase agreement with Dr. Ryan O'Connor consistent with earlier public notice given at a Board meeting and with the "Purchase Agreement Term Sheet" now presented to the Board for inclusion in its minutes.

Background:

In compliance with State law, public notice of the University's intent to negotiate contracts with Dr. Ryan O'Connor was given at the Board of Trustees meeting on August 29, 2014. The terms of a purchase agreement are now being presented for approval.

Dr. Ryan O'Connor is an Assistant Professor in the Department of Physical Medicine and Rehabilitation. The attached "Purchase Agreement Term Sheet" summarizes the agreement that MSU has negotiated with Dr. O'Connor.

cc: Trustee Finance Committee
 President Lou Anna K. Simon
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PURCHASE AGREEMENT TERM SHEET

Party: Ryan O'Connor

Agreement: MSU to purchase medical equipment from Dr. O'Connor

Payment Terms: \$48,500 from MSU to Dr. O'Connor

Services Provided: By MSU to Dr. O'Connor: None
By Dr. O'Connor to MSU: None

Market Assessment: A third-party appraisal of the equipment was performed for the MSU Health Team. The appraisal established the fair market value of the equipment.

Personnel Interest: Dr. O'Connor is an Assistant Professor in the Department of Physical Medicine and Rehabilitation.

OPTION AGREEMENT TERM SHEET

Party: Shock EngineWorks, Inc.

License: Option on patent rights

Term: From the effective date of the agreement to December 11, 2015, extendable upon mutual agreement

Technology: MSU Invention Disclosure:
TEC2004-0091 "Radial Wave Rotor (Wave Disc)" including U.S. Patent No. 7,555,891;
and
TEC2011-0060 "WDE Follow Up" including U.S. Patent Application No. 13/969,900
The parties may add or remove technologies under the agreement, including improvements generated under a separate sponsored research agreement, provided that the change does not affect the financial consideration of the parties or the nature or extent of any pecuniary interest of MSU personnel.

Technology's Potential

Commercial Utilization: Unmanned aerial vehicles

Payment Terms: \$2,500 fee payable within 30 days

Services Provided: By MSU to Shock EngineWorks, Inc.: None contemplated under agreement
By Shock EngineWorks, Inc. to MSU: None contemplated under agreement

Organization Type: Delaware corporation based in East Lansing

Personnel Interest: Dr. Norbert H. Mueller, an Associate Professor in the Department of Mechanical Engineering, and his family own or have options to buy an ownership interest in more than 1% of the company. Dr. Mueller may also serve as an officer of Shock EngineWorks, Inc.

MICHIGAN STATE UNIVERSITY

December 1, 2014

MEMORANDUM

To: Trustee Policy Committee
 From: June Youatt, Provost *JY*
 Re: Approval of Contract Terms: *siRNAx, Inc.*

Recommendation:

The Trustee Policy Committee recommends that the Board of Trustees approve a contract between Michigan State University and *siRNAx, Inc.*, a company in which faculty member Dr. R. Michael Garavito holds a financial interest.

Resolution:

BE IT RESOLVED that the Board of Trustees approves a sponsored research agreement with *siRNAx, Inc.*, consistent with earlier public notice given at a Board meeting and with the "Sponsored Research Agreement Term Sheet" now presented to the Board for inclusion in its minutes.



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Background:

In compliance with State law, public notice of the University's intent to negotiate contracts with *siRNAx, Inc.*, a Michigan corporation based in Ann Arbor, Michigan, was given at the Board of Trustees meeting on August 29, 2014. The terms of a sponsored research agreement are now being presented for approval.

Dr. R. Michael Garavito, a Professor in the Department of Biochemistry and Molecular Biology, and his family own or have options to buy an ownership interest of more than 1% of the company. Dr. Garavito is also an officer of *siRNAx, Inc.*

The attached "Sponsored Research Agreement Term Sheet" summarizes the agreement that MSU has negotiated with *siRNAx, Inc.*

cc: Trustee Finance Committee
 President Lou Anna K. Simon
 Executive Vice President Satish Udpa
 Vice President and Secretary Bill Beekman
 Vice President Steve Hsu
 Vice President Robert A. Noto
 Faculty Conflict of Interest Officer Brian Mattes

Deputy General Counsel Kristine Zayko
Assistant General Counsel Nate Stuart

SPONSORED RESEARCH AGREEMENT TERM SHEET

Party: siRNAx, Inc.

Contracts: Sponsored research agreement subcontract: "Novel scFv-Antibody Fusion siRNA Carrier Protein for Macroglobulinemia Treatment"

Term: From July 1, 2014 to September 30, 2015

Payment Terms: \$87,388

Services Provided: By MSU to siRNAx: research and development of siRNA delivery vehicles; the target application is siRNA-based treatment of macroglobulinemia

By siRNAx to MSU: none

Use of University Facilities/Personnel: Dr. R. Michael Garavito, a Professor in the Department of Biochemistry and Molecular Biology, will engage in research and provide the services described above.

Organization Type: Michigan corporation based in Ann Arbor

Personnel Interest: Dr. R. Michael Garavito, a Professor in the Department of Biochemistry and Molecular Biology, and his family own or have options to buy an ownership interest of more than 1% of the company. Dr. Garavito is also an officer of siRNAx, Inc.

**MICHIGAN STATE
UNIVERSITY**

December 11, 2014

MEMORANDUM

To: Trustee Policy Committee

From: June Youatt, Provost

Re: Approval of Contract Terms: *KTM Industries, Inc.*

Recommendation:

The Trustee Policy Committee recommends that the Board of Trustees approve a license termination and settlement agreement with *KTM Industries, Inc.*, a company in which faculty members Dr. Ramani Narayan and Dr. Marcos Dantus hold a financial interest.

Resolution:

BE IT RESOLVED that the Board of Trustees approves the execution of a license termination and settlement agreement with *KTM Industries, Inc.*, consistent with earlier public notice given at a Board meeting and with the "License Termination and Settlement Agreement Term Sheet" now presented to the Board for inclusion in its minutes.

Background:

In compliance with State law, public notice of the University's intent to negotiate contracts with *KTM Industries, Inc.*, a Michigan corporation based in Lansing, was given at the Board of Trustees meeting on June 17, 2002. The terms of a license termination and settlement agreement are now being presented for approval.

Dr. Ramani Narayan, a 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. Dr. Marcos Dantus, a Professor in the Department of Chemistry, and his family own or have options to buy an ownership interest of more than 1% of the company. Dr. Narayan is also an officer of the company.

The attached "License Termination and Settlement Agreement Term Sheet" summarizes the agreement that MSU has negotiated with *KTM Industries, Inc.*

cc: Trustee Finance Committee
President Lou Anna K. Simon
Executive Vice President Satish Udpa
Vice President and Secretary Bill Beekman
Vice President Steve Hsu
Vice President Robert A. Noto
Faculty Conflict of Interest Officer Brian Mattes
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Assistant General Counsel Nate Stuart



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LICENSE TERMINATION AND SETTLEMENT AGREEMENT TERM SHEET

Party: KTM Industries, Inc.

Contract: License termination and settlement agreement

Term: From the effective date of the agreement extending to the date KTM completes all payments to MSU under the agreement

Technology: MSU Invention Disclosure (ID) No. 02075 "Engineered Starch Foams with Enhanced Water Resistance, Flexibility, and Cushioning Properties"; MSU ID No. 02078 "Extruded Starch Foam as in Insulation Material"; MSU ID No. 02079 "Biodegradable Additives for Manufacturing Non Brittle Foamed Starch Sheets"; MSU ID No. 02081 "Improved Processing Method for the Production of Less Dense and More Flexible Foamed Starch Packaging Sheets"; MSU ID No. 03013 "Water Resistant Natural Polymer Coatings for Soluble Foamed Starch Materials"; MSU Invention Disclosure MSU ID No. TEC2005-0012 "Amphiphilic Starch-Polyester Biodegradable Graft Copolymers, the Method of Preparation thereof and Its Use in Water Resistant Starch Foams"

Any and all U.S. and foreign patent applications and registrations filed by or on behalf of MSU claiming the technology and/or any patents maturing from such patent applications, including U.S. Patent Application 11/131,565

Potential Commercial Utilization: Biodegradable engineered foam

Payment Terms: From KTM to MSU: \$50,000 on effective date of agreement, additional payments of \$3,000 per month for twelve months, totaling \$86,000

MSU to waive remaining \$141,971 due under license in outstanding royalties and expenses unless KTM is acquired by a third party prior to July 1, 2015, in which case the \$141,971 will be payable to MSU within thirty days of acquisition

Services Provided: By MSU to KTM: none under contemplated agreement

By KTM to MSU: none under contemplated agreement

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 his family own or have options to buy an ownership interest of more than 1% of the company. Dr. Marcos Dantus, a Professor in the Department of Chemistry, and his family own or have options to buy an ownership interest of more than 1% of the company. Dr. Narayan is also an officer of the company.

Attachment 3.a

MICHIGAN STATE UNIVERSITY

December 1, 2014

MEMORANDUM

To: Trustee Policy Committee 
 From: June Youatt, Provost
 Re: Notice of Intent to Negotiate Contracts with *Thermetrics, Inc.*

Pursuant to State law, the Chair of the Policy Committee is requested to give public notice to the full Board of the University's intent to negotiate contracts with *Thermetrics, Inc.*, a Delaware corporation.

Dr. Kirk Dolan, an associate professor in the Department of Food Science and Human Nutrition, and his family, owns or has options to buy an ownership interest of more than 1% of the company. Mr. Andy Tomaswick, a graduate assistant and an employee of the company, and his family, owns or has options to buy an ownership interest of more than 1% of the company.

As negotiations progress, detailed information about proposed contracts with *Thermetrics, Inc.* will be provided to the Board for its review in accordance with State law.



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cc: Trustee Finance Committee
 President Lou Anna K. Simon
 Executive Vice President Satish Udpa
 Vice President and Secretary Bill Beekman
 Vice President Steve Hsu
 Vice President Robert A. Noto
 Faculty Conflict of Interest Officer Brian Mattes
 Deputy General Counsel Kristine Zayko
 Assistant General Counsel Nate Stuart

RESOLUTION
HONORING FAYLENE OWEN

Michigan State University
December 12, 2014

The Michigan State University Board of Trustees today extends to Faylene Owen its deep gratitude and appreciation for service to her university. Trustee Owen was elected to the Board of Trustees in 2006.

As a member of the board and, in particular, as chairperson of the Finance Committee, Trustee Owen has played a major role in the board's efforts to keep tuition and room-and-board rates as low as possible despite reduced state support.

Trustee Owen has been at the forefront of many of the projects that will shape this university for years to come, including the Facility for Rare Isotope Beams, the Bio Engineering Facility and much-needed upgrades to many athletic and student facilities. These projects are but one example of Trustee Owen's deep passion for MSU's faculty and students. She has served as the board's liaison to both faculty and students and, in each role, has invested countless hours working with faculty and student leaders toward the betterment of her beloved university.

Trustee Owen also has been a regular presence at many university functions, including groundbreakings, dedications and fundraising activities. She has actively promoted the university's interests to donors and friends of MSU in Michigan and beyond, including the student organic farm, student scholarships, and the Hillel Student Center.

In addition to her MSU duties, Trustee Owen has been active in her community. She has served as chair of both the Sparrow Hospital Foundation and Child Abuse Prevention Services. She was a board member of the American Heart Association's fundraising campaign for women's heart research, MSU's Hillel Student Center, MSU Safe Place and Kaleidoscope.

Trustee Owen has admirably served her state as well. She was the director of special projects and deputy finance director for Governor James Blanchard. She was executive director of the Michigan Executive Corps, a public-private partnership that brings private sector expertise to the government. And she was a long-time board member of the Michigan State Fair.

Trustee Owen has been an active member of the Democratic Party, serving as managing trustee of the Democratic National Committee, as well as chair of the Clinton-Gore Michigan fundraising campaigns in 1992 and 1996.

For her extraordinary leadership, her passionate commitment, and her tireless efforts on behalf of her university, the Michigan State University Board of Trustees offers its heartfelt thanks and sincere gratitude to Faylene Owen.

Joel I. Ferguson, Chairman

Brian Breslin, Vice Chairperson

Dianne Byrum

Diann Woodard

Mitch Lyons

Brian Mosallam

George Perles