

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

October 25, 2013

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

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

Trustee absent: George Perles.

University officers present: President Simon, Acting Provost Youatt, Executive Vice President Udpa, Vice President and Secretary Beekman, Vice President and General Counsel Noto, Vice Presidents Burnham, Flinn, Gore, Groves, Haas, Hsu, Maybank, and Swain, and Senior Advisor and Director Granberry Russell. Faculty liaisons present: William Anderson, Sue Carter, William Davidson II, Mary Noel, and Miriam Sticklen. Student liaisons present: Zachary DeRade, Stefan Fletcher, Jalen Garrett, and Evan Martinak.

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

1. On a motion by Trustee Owen, supported by Trustee Ferguson, the **BOARD VOTED to approve** the revised agenda.
2. On a motion by Trustee Breslin, supported by Trustee Byrum, the **BOARD VOTED to approve** the minutes of the Board meeting of September 13, 2013.
3. President's Report

President Simon provided the following report to the Board.

A. 2013 eduStyle People's Choice Award

President Simon congratulated the SPARTANS WILL. 360 team for winning the 2013 eduStyle People's Choice Award for Best Annual or Community Report. The people's choice award is an acknowledgement of the team's talent and hard work. Votes for the award are cast by more than 4,000 active eduStyle members focused on web design in higher education.

B. Rankings of World Universities by Times Higher Education

Michigan's top two public universities climbed in the latest rankings of world universities from *Times Higher Education*, a weekly magazine based in London. Michigan State University and the University of Michigan are the only two Michigan schools listed in the annual survey, which looks at universities across the world and ranks them in a number of categories. MSU made a big climb up the rankings—going from 94<sup>th</sup> last year to 83<sup>rd</sup> this year.

C. Broad Art Museum Wins Engineering Award

The Eli and Edythe Broad Art Museum has been named one of the *Engineering News Record (ENR) Midwest's* Best Projects. The project will be highlighted in the November 18 issue of *ENR Midwest* and celebrated at the Best Projects Award event on November 22, 2013. Projects are judged on safety, construction quality and craftsmanship, functionality of design, and aesthetic quality.

D. Three MSU Buildings Win Architecture Awards

Three of MSU's buildings are featured winners at the 2013 AIA Detroit Celebration of Architecture. The Eli and Edythe Broad Art Museum, Wells Hall, and the Molecular Plant Sciences Building are among the seven winners in the Building Honor Awards category.

E. MSU's MBA Program a Leader in Forbes Ranking

The full-time MBA program at MSU's Broad College of Business is a leader among U.S. programs, according to *Forbes* magazine's biennial ranking. The 2013 ranking, released this month, places Broad's program ninth among public schools and 22<sup>nd</sup> overall. Since 2007, *Forbes* has consistently ranked Broad among the top public institutions and the top 25 programs overall.

F. Star Shaped Bottle Wins Design Competition

Four MSU students won first place at the 2013 Glass Packaging Design Competition with their redesign of the Lone Star Whiskey bottle. The designers, Taylor Thompson, Tyler Nunnold, Sean Hannah, and Matt Gallinger, created a cowboy-friendly, robust, five-sided package design that beat out 70 other student teams in the Glass Packaging Institute's seventh annual glass bottle design competition.

G. Free App Digs into MSU History

Two MSU anthropology professors, Lynne Goldstein and Ethan Watrall, collaborated to create a free app that gives users access to the University's extensive history. On the app's map, users can click on the nearby buildings and landmarks and learn about their history and the history of MSU.

H. Rhodes Scholarship

MSU senior Craig Pearson has been selected to interview for the Rhodes Scholarship on November 22. Craig is a member of the Honors College majoring in neuroscience, biochemistry, and molecular biology in the College of Natural Science and English in the College of Arts and Letters. He is from Bloomfield Hills and graduated from the University of Detroit Jesuit High School.

I. 2013 Hoophouse Gala

MSU's fifth annual Hoophouse Gala raised more than \$80,000 for the MSU Student Organic Farm. The money supports the training and education of future generations of organic farmers. The Gala had record attendance, with more than 270 people gathering for the evening. Guests were treated to a seven-course, local and sustainably produced meal prepared by MSU's award-winning chefs. The meal showcased pork raised at the MSU Student Organic Farm and products from Michigan farms and wineries.

J. MSU Celebrates Campus Sustainability Week

MSU highlighted many of its energy-saving and recycling success stories during Campus Sustainability Week, October 21-25, 2013. Highlights of the week included tours of the Student Organic Farm, MSU's green roofs, and the Bailey Greenhouse and urban farms. There was also a tour of MSU's Brody Complex, which focused on its sustainability efforts, including the food pulper, its partnership with the Student Organic Farm, and the utilization of locally grown food. In addition, a series of town hall meetings were held to update the MSU community on the status of the Energy Transition Plan.

K. Outstanding Professional Contributions Award

Tom Luccock, Director of Internal Audit, received the Outstanding Professional Contributions award from the Association of College

and University Auditors. The award recognizes Mr. Luccock's extraordinary contributions to enhancing the value of internal auditing in the governance of higher education institutions, promoting collaborative relations among the internal audit profession, and personally embodying internal auditing's high professional standards.

4. Public participation on issues germane to the agenda

A. MSU Family Housing/Spartan Village

Mr. Vaughn Crichlow, MSU doctoral student, said that he lives in Spartan Village with his family. He said that Spartan Village offers safe and convenient housing to MSU students. Mr. Crichlow said that it is important to have family-oriented housing on campus and he is concerned about its future.

B. MSU Family Housing/Spartan Village

Mr. Bernie Malonson, MSU graduate student, said that the ability to live on campus in Spartan Village with his family was a key factor in his decision to attend MSU. He stated that non-traditional students often prefer the stability and convenience that family housing on campus provides. Mr. Malonson said that family housing is not just an apartment, but a home for students with families while attending MSU. Mr. Malonson urged the Board to approve the planning of family housing on campus.

C. MSU Family Housing/Spartan Village

Mr. Malik Kashif, MSU community member, said that, in addition to families, Spartan Village serves many international students. Mr. Kashif said that he is concerned about housing options for students while buildings continue to be demolished during the planning process.

D. MSU Family Housing/Spartan Village

Ms. Batool Atta, MSU graduate student, said that the main concern for her and her family when preparing to travel to MSU was housing. Ms. Atta said that she has lived in Spartan Village since 2009 and is concerned about the demolition and planning process. Ms. Atta said that Spartan Village currently offers a better alternative to residence halls for international students with families. She said that she would like to be involved in any future planning meetings.

5. There were no Personnel Actions.

6. Gifts, Grants, and Contracts

Vice President Hsu introduced Dr. Charles MacKenzie, Professor, College of Veterinary Medicine. Dr. MacKenzie made a presentation to the Board on elephantiasis and river blindness. (Appendix A)

7. Finance Committee

Trustee Owen presented the Trustee Finance Committee Report and recommendations.

A. Adoption of the 2014-15 Appropriation Request Parameters and Capital Outlay

It was recommended that the Board of Trustees adopt the Appropriation Request, including needs for the University General Fund, the AgBioResearch, and Michigan State University Extension.

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

**THE BOARD VOTED to approve** the recommendation.

B. Fund Functioning as an Endowment—Physics and Astronomy Student Assistantships Fund

It was recommended that the Board of Trustees establish a fund functioning as an endowment entitled Physics and Astronomy Student Assistantships Fund.

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

**THE BOARD VOTED to approve** the recommendation.

C. New Investment Managers

It was recommended that the Board of Trustees select Vulcan Value Partners LLC, Vitruvian Partners LLP, and GTRC LLC as investment managers.

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

**THE BOARD VOTED to approve** the recommendation.

D. Authorization to Plan—Bessey Hall—Renovate Third Floor

It was recommended that the Board of Trustees authorize the Administration to plan for the project entitled Bessey Hall—Renovate Third Floor.

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

**THE BOARD VOTED to approve** the recommendation.

E. Authorization to Plan—Veterinary Teaching Hospital—Nursing Care Unit Renovation and Veterinary Medical Center—Replace Fire Alarm System

It was recommended that the Board of Trustees authorize the Administration to plan for the project entitled Veterinary Teaching Hospital—Nursing Care Unit Renovation.

It was recommended that the Board of Trustees authorize the Administration to plan for the project entitled Veterinary Medical Center—Replace Fire Alarm System.

Trustee Owen **moved to approve** the recommendations.

**THE BOARD VOTED to approve** the recommendations.

F. Authorization to Plan—West Circle Complex—Infrastructure Improvements (Phase 2 of 2)

It was recommended that the Board of Trustees authorize the Administration to plan for the project entitled West Circle Housing Complex—Infrastructure Improvements (Phase 2 of 2).

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

**THE BOARD VOTED to approve** the recommendation.

G. Authorization to Plan—Wilson Hall—Creative Commons Renovation

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

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

**THE BOARD VOTED to approve** the recommendation.

H. Authorization to Plan—Engineering Building—Chiller Replacement

It was recommended that the Board of Trustees authorize the Administration to plan for the project entitled Engineering Building—Chiller Replacement.

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

**THE BOARD VOTED to approve** the recommendation.

I. Authorization to Plan— Special Housing Needs/Spartan Village

It was recommended that the Board of Trustees authorize the Administration to plan for the project entitled Strategic Development: Special Housing Needs/Spartan Village Redevelopment.

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

**THE BOARD VOTED to approve** the recommendation.

J. Authorization to Plan—Kresge Courtyard Renovation

It was recommended that the Board of Trustees authorize the Administration to plan for modifications that would make a material long-term change to the landscape for the project entitled Kresge Courtyard Renovation.

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

**THE BOARD VOTED to approve** the recommendation.

K. Project Approval—Authorization to Proceed—Chittenden Hall—Renovation

It was recommended that the Board of Trustees authorize the Administration to proceed with the project entitled Chittenden Hall—Renovation, and that it approve a budget of \$6,200,000.

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

**THE BOARD VOTED to approve** the recommendation.

L. Project Approval—Authorization to Proceed—Spartan Marching Band—Artificial Turf Field

It was recommended that the Board of Trustees authorize the Administration to proceed with the project entitled Spartan Marching Band—Artificial Turf Field, and that it approve a budget of \$1,300,000.

It was recommended that the Board of Trustees grant a variance to the University zoning ordinance to allow a footprint change within a protected green space area.

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

**THE BOARD VOTED to approve** the recommendation.

M. Project Approval—Authorization to Proceed—North Campus Infrastructure Improvements—West Circle Drive--2014

It was recommended that the Board of Trustees authorize the Administration to proceed with the project entitled North Campus Infrastructure Improvements—West Circle Drive—2014, and that it approve a budget of \$14,900,000.

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

**THE BOARD VOTED to approve** the recommendation.

8. Policy Committee

Trustee Byrum presented the Trustee Policy Committee Report and recommendations.



A. Midland Research Institute for Value Chain Creation

It was recommended to the Board of Trustees that the Administration be authorized to establish a donor-supported, value chain-focused institute for the conduct of research, teaching, and outreach in Midland, Michigan.

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

**THE BOARD VOTED to approve** the recommendation.

B. Authorization of Stormwater, Asset Management and Wastewater Grant

It was recommended that the Board of Trustees authorize the Administration to apply for the Stormwater, Asset Management and Wastewater Grant and to enter into the related grant agreement if the grant is awarded.

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

**THE BOARD VOTED to approve** the recommendation.

C. Approval of Contract Terms

It was recommended to the Board of Trustees that it approve the amendment of a contract with *BoroPharm, Inc.*, consistent with earlier public notice given at a Board meeting and with the "Amended Agreement Term Sheet" presented to the Board. (Appendix B)

It was recommended to the Board of Trustees that it approve the execution of a purchase agreement with *Mr. Tom Berding*, consistent with earlier public notice and with the "Purchase Agreement Term Sheet" presented to the Board. (Appendix C)

It was recommended to the Board of Trustees that it approve the execution of a research subcontract with *LabSys, LLC*, consistent with earlier public notice and with the "Research Agreement Term Sheet" presented to the Board. (Appendix D)

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

**THE BOARD VOTED to approve the recommendations.**

D. Notice of Intent to Negotiate Contracts with *Shock Engineworks*

Pursuant to State law, the Chair of the Policy Committee gave public notice of the University's intent to negotiate contracts with *Shock Engineworks*, a company based in East Lansing.

Dr. Norbert Mueller, an Associate Professor in the Department of Mechanical Engineering, and his family will own or have options to buy an ownership interest of more than one percent of the company. Dr. Mueller will also have a managerial interest in *Shock Engineworks*.

9. Audit Committee

Trustee Breslin presented the Trustee Audit Committee Report and recommendations.

The University received a clean opinion from the auditors, which indicates that MSU followed accounting rules appropriately and that the financial reports are an accurate representation of MSU's financial position as of June 30, 2013.

No significant changes were made to Plante Moran's audit approach, which was reviewed by the Audit Committee prior to audit work commencing. No significant adjustments were proposed during the audit and no material weaknesses in internal controls or accounting policies and procedures were noted.

It was recommended that the Board of Trustees accept the audited financial statements for the year ended June 30, 2013.

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

**THE BOARD VOTED to approve the recommendation.**

The Audit Committee also received a report regarding the implementation of the Standards of Official Conduct and reviewed conflicts of interest with the Director of Internal Audit, Tom Luccock, and Deputy General Counsel Kristine Zayko.

10. Sustainability Report

Ms. Jennifer Battle, Director of Campus Sustainability, provided a summary of the Sustainability Report and noted that the full report is available on the MSU website:

<http://sustainability.msu.edu/report/2013/index.html>

11. Trustee Comments

Trustee Ferguson said that the research presentation was impressive and he thanked everyone for their hard work on behalf of Team MSU.

Trustee Lyons said that he enjoyed the research presentation and looked forward to having conversations regarding branding strategies for MSU.

Trustee Owen asked Dr. Sue Carter, faculty liaison, to provide an overview of the faculty liaison breakfast meeting.

Dr. Carter said that University resources and reputation were discussed. MSU has made great strides and will continue to work to maintain its ranking in the top 100 international universities. Dr. Carter said that the conversation regarding retaining and advancing MSU's position was started and will continue.

Trustee Byrum applauded sustainability efforts at MSU.

Trustee Breslin thanked President Simon for her leadership and thanked Vice President Haas and his team for their work on the financial statements.

12. Public Participation on Issues Not Germane to the Agenda

A. Graduate Employees Union

Mr. Dan Clark, President of the Graduate Employees Union, said that the union represents more than 1,400 teaching assistants in 72 different departments on campus. He said that teaching assistants are responsible for approximately one-third of instruction and two-thirds of the grading on campus. Mr. Clark said that teaching assistants are an integral part of the University's instructional staff. Mr. Clark said that an underpayment of teaching assistants occurred during the summer and fall semester overlap. He said that teaching assistants with summer and fall appointments have missed out on four days of summer pay. Mr. Clark said that flaws with University accounting software are not a valid reason not to pay teaching assistants.

B. Graduate Employees Union

Ms. Esme Murdock, member of the Graduate Employees Union, read a list of teaching assistants and the amount of pay that the Graduate Employees Union believes is owed to them.

C. Graduate Employees Union

Mr. James Daly, member of the Graduate Employees Union, read a list of teaching assistants and the amount of pay that the Graduate Employees Union believes is owed to them.

D. Graduate Employees Union

Mr. Daniel Beck, member of the Graduate Employees Union, read a list of teaching assistants and the amount of pay that the Graduate Employees Union believes is owed to them.

E. Working Conditions of Fixed-Term Faculty at MSU

Dr. Penny Gardner, President of the Union of Non-Tenure Track Faculty at MSU, said that she supported payment to the teaching assistants. Dr. Gardner said that in the coming months the union will begin negotiating its second contract with MSU. Dr. Gardner said that, unlike tenure track professors, non-tenure track faculty are hired as temporary workers for a semester or year and have to re-apply for positions with little guarantee of job security and, for many, no health care. Dr. Gardner said non-tenure track professors often earn half or a third what their tenure track colleagues do. Dr. Gardner said that many adjunct faculty members have the same qualifications as tenure track faculty. Dr. Gardner said that all faculty members should have the same security, benefits, and opportunities.

12. Request to Adjourn

On a motion by Trustee Ferguson, supported by Trustee Lyons, **THE BOARD VOTED to adjourn** at 11:15 a.m.

Respectfully submitted,



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

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

**OCTOBER 25, 2013**

**CHARLES MACKENZIE  
COLLEGE OF VETERINARY MEDICINE**

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

## **Board of Trustees Talk October 25th - Charles Mackenzie**

- Charles Mackenzie is a Professor in the Department of Pathobiology and Diagnostic Investigation.
- He came to MSU from the London School of Hygiene & Tropical Medicine in 1989 as Chair of the Department of Pathology in the Medical Schools.
- He has worked in many countries in Africa and Latin America, focussing on Sudan, Tanzania, Cameroon, Yemen and Ecuador. His current work is funded by the Bill & Melinda Gates Foundation.
- In 2012 he received the Order of Australia from the Governor-General of Australia for his work in Africa.

## ***ELEPHANTIASIS AND RIVER BLINDNESS***

### ***FILARIAL INFECTIONS***

CHRONIC DEBILITATING  
INFECTIONS THAT AFFECT  
MORE THAN 170 MILLION  
PEOPLE



## ***THE CHALLENGES OF FILARIAL INFECTIONS AND THEIR TREATMENT***

- Cause DISEASES of LONG DURATION
  - Cause disfigurement/incapacity, severe acute attacks and incredible levels of itching dermatitis lasting many years
  - Children as young as 4 years have pathology
  - Cause major economic hardship, including to the families of patients
- No vaccine exists , and VECTOR (insect) control helps, but is not enough
- CHEMOTHERAPY is successful, but has challenges
  - Current drugs kill small YOUNG worms but not large ADULT worms (live 10+ years)
  - Severe inflammation occurs with death of worms
  - ELIMINATION goal requires treatment of >80% of the population



## AIM: **ELIMINATE INFECTION AND REDUCE DISEASE BURDEN**

- **THE PRINCIPLES WE FOLLOW:**
  - Understand of the actual **field** situation
  - Collaborate as **equal partners** with endemic countries
  - Develop the potential of these endemic countries through **education/training**
  
- **THREE APPROACHES FOR THE MSU FILARIASIS TEAM:**
  1. Implement **drug distribution** through involvement, training and capacity building focusing in **5** countries
  2. Carry out research to find **new drugs** that will speed up elimination
  3. Improve the care for the affected patients through **understanding** the disease and developing **new treatment regimes**

### **1. ASSIST IN DRUG DISTRIBUTION**

- **GLOBALLY**
    - Over 3 billion treatments with anti-Mf drugs have been given so far (15-20 years)
- MSU-SUPPORTED COUNTRY PROGRAMS (1980-2013)**
- ECUADOR (1980--2012) - Now completely **FREE** of River blindness (WHO 2013)
  - TANZANIA (1999--now) – 27 million people treated – Had very bad disease levels
  - SUDAN/SOUTH SUDAN (1995--now) - Isolated areas are now free of infection – e.g. Nubian desert villages
  - YEMEN (1992) - Developed a national plan in 2013



## **2. FIND A NEW CHEMOTHERAPEUTIC DRUG**

- AIM: A drug that will kill ADULT worms safely and quickly
- APPROACH: Reformulate a drug that we first found in 1980  
**FLUBENDAZOLE** – in a common safe anti-worm drug group
- 2011: \$3+ million from Gates Foundation for pre-clinical development
- Now nearing the end of the pre-clinical stage and we have developed an effective ORAL FORMULATION that safely kills adult worms
- *Johnson & Johnson* have committed to donate this reformulated drug for use in global filarial programs

## **3. IMPROVED PATIENT-CARE THROUGH UNDERSTANDING THE DISEASE**

- Define the clinical presentation and suffering
  - Chemotherapy (i.e. removing the worm) eliminates ACUTE ATTACKS and reverses the chronic condition in many people – *1200 patients followed*
- Developed animal models of the pathology
  - Shown that it is not BLOCKED VESSELS but vessel inflammation and “over growth”
- Involvement in Global Elimination Efforts
  - Developing global approach for the care of filariasis patients

## OUR SUCCESSES TO DATE

- A large number of **DRUGS DISTRIBUTED** → infection rate is dropping fast
- **ELIMINATION IS HAPPENING !** ECUADOR is now free . TANZANIA infection levels very low. YEMEN'S program is now begun.
- Our new knowledge of the **DISEASE** → better **CARE**
  - PATIENTS IMPROVING – ACUTE ATTACKS gone, DISFIGUREMENTS disappearing
  - A MAJOR MORBIDITY INTIATIVE now at the global level
- **TRAINING** programs instigated:
  - A MSU On-line course to train and teach in-country personnel in MASS DRUG DISTRIBUTION activities
- Our new **MACRO-FILARICIDE** is likely to be in humans in 2014
  - This should SHORTEN drug programs dramatically (20 years → 3 years)

- **ALREADY, IN MOST ENDEMIC COUNTRIES, NO CHILDREN ARE INFECTED**
- **INFECTION ELIMINATED GLOBALLY BY 2025?**
- **ALL FILARIAL PATIENTS HAVE ACCESS TO HEALTH CARE BY 2000**



## AMENDED AGREEMENT TERM SHEET

**Party:** BoroPharm, Inc.

**Amended Agreement:** Amendment to the term and rates of pilot plant use agreement executed on December 13, 2011.

**Project Description:** Use of pilot plant infrastructure and operational staff at the MSU facility in Holland, MI for production of chemical intermediates, process optimization, and related research.

**Term:** Four years, unless terminated at an earlier date at the discretion of either party. (Original term was two years, unless terminated at an earlier date at the discretion of either party.)

**Contract Terms:** BoroPharm, Inc. is responsible for providing all raw materials, shipping all products, and disposal of all wastes generated. The company is responsible for complying with all applicable laws and regulations, as well as all MSU policies, and for cooperating fully with the MSU Office of Radiation, Chemical, and Biological Safety. The company assumes all risks of failed production runs not resulting from demonstrable MSU error or negligence. No intellectual property rights of either party are modified under this agreement.

All payments are by BoroPharm, Inc. to MSU. Charges subsequent to December 5, 2013 will be governed by the attached rate sheet. (Charges prior to December 5, 2013 will be governed by the rates set forth in the original agreement.)

**Services Provided:** By MSU to BoroPharm, Inc.: Pilot plant scale-up of chemical syntheses, with associated analytical services, as ordered.

By BoroPharm, Inc. to MSU: None under contemplated agreement.

**Use of University Facilities/Personnel:**

MSU personnel will execute the pilot plant synthesis runs in the MSU facility in Holland, MI, and provide any agreed supplemental analytical services.

**Organization Type:** BoroPharm, Inc. is a Delaware corporation with offices in Novi, MI.

**Personnel Interest:** Dr. Robert E. Maleczka and Dr. Milton R. Smith, both Professors in the Department of Chemistry, and their immediate families, each own or have an option to buy an ownership interest of more than 1% of the company. Drs. Maleczka and Smith are also officers of BoroPharm, Inc.

**PURCHASE AGREEMENT TERM SHEET**

**Party:** Mr. Tom Berding

**Agreement:** MSU to purchase a painting from Mr. Berding.

**Payment Terms:** \$5,000.

**Services Provided:** By MSU to Mr. Berding: None.

By Mr. Berding to MSU: None.

**Use of University Facilities/Personnel:**

No use of MSU facilities/personnel under the contemplated agreement.

**Market Assessment:** The Eli and Edythe Broad Art Museum at Michigan State University has determined that the financial terms of the contemplated agreement are fair and reasonable in the current market.

**Personnel Interest:** Mr. Berding is an associate professor in the Department of Art, Art History, and Design.

## RESEARCH AGREEMENT TERM SHEET

**Party:** LabSys, LLC

**Agreement:** Research subcontract under MSU project titled:  
“Magnetoresistive Sensing Development (MRS D)”

**Term:** From the effective date of the agreement to December 29, 2014.

**Payment Terms:** \$12,469; total award, funded incrementally, up to \$154,012.

**Services Provided:** By MSU to LabSys, LLC: none.

By LabSys, LLC to MSU: support the modeling and verification of array features, coil geometries and field effects by providing necessary electronic circuit hardware; develop improved manufacturing processes for GMR sensor arrays.

**Use of University Facilities/Personnel:**

None.

**Organization Type:** Limited liability company based in East Lansing.

**Personnel Interest:** Dr. Yue Huang, a Professional Aide in the Department of Electrical & Computer Engineering, and his family own or have options to buy an ownership interest of more than 1% of the company. Dr. Huang is also an officer of LabSys, LLC.