

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

December 15, 2017

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, Melanie Foster, Dan Kelly, Mitch Lyons, Brian Mosallam, and George Perles.

University officers present: President Simon, Provost and Executive Vice President Youatt, Vice President and Secretary Beekman, Vice President and General Counsel Noto, Vice Presidents Burnham, Gore, Groves, Haas, Hsu, Maybank, Swain, and Zecher, and Senior Advisor and Director Granberry Russell. Faculty liaisons present: Michael Dease, Laura McCabe, Deborah Moriarty, Greg Swain, and Thomas Tomlinson. Student liaisons present: Lauren Bernhardt, Ashley Fuente, Malik Hall, Lorenzo Santavicca.

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

1. On a motion by Trustee Mosallam, supported by Trustee Lyons, the **BOARD VOTED to approve** the agenda.
2. On a motion by Trustee Breslin, supported by Trustee Mosallam, the **BOARD VOTED to approve** the minutes of the October 27, 2017 Board of Trustees meeting.
3. Board of Trustees Award Presentations

Provost Youatt presented the Board of Trustees Award to the following students:

1. Matthew Baas - Major: Finance; Member of the Honors College; 4.0 GPA
2. Eric Brunk - Major: Packaging; Member of the Honors College; 4.0 GPA
3. Anna Doering - Major: Music Education; Member of the Honors College; 4.0 GPA
4. Mckayley Gourley - Major: Computer Science; Member of the Honors College; 4.0 GPA
5. Benjamin Hicks - Major: Finance; 4.0 GPA

6. Brittany Ladson - Major: Human Biology; Member of the Honors College; 4.0 GPA
7. Alec Maddalena - Major: Human Biology; Member of the Honors College; 4.0 GPA

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

1. Steven Fromm - Major: Physics; 4.0 GPA
2. Guinevere Overly - Major: Arabic; 4.0 GPA
3. Trey Pfeiffer - Major: Mechanical Engineering; Member of the Honors College; 4.0 GPA
4. Lucas Wolfe - Major: Electrical Engineering; Member of the Honors College; 4.0 GPA

4. President's Report

President Simon provided the following report to the Board.

A. Mitchell and Rhodes Scholars

Cynthia Jackson-Elmoore, Dean of the Honors College, presented the two MSU students who were selected as Rhodes and Mitchell Scholars.

Clara Lepard, a recent MSU Honors College graduate with a degree in zoology from the College of Natural Science, was named a Rhodes Scholar.

Celia Hallan, an Honors College senior majoring in international relations in the James Madison College and environmental geography in the College of Social Science was named a Mitchell Scholar.

President Simon congratulated both recipients for their outstanding accomplishments. She also offered congratulations to each of the Board of Trustees Award scholars. She stated that MSU takes great pride in the accomplishments of this extraordinary class of students, and that she looks forward with anticipation as they begin impactful careers, carrying on Michigan State University's tradition of excellence in advancing knowledge and transforming lives.

B. Commencement

President Simon noted that MSU is pleased to welcome three distinguished speakers to participate in Commencement events and receive honorary degrees.

Cynthia Pasky, founder and CEO of Strategic Staffing Solutions, or S3, will address graduates at the 10 a.m. ceremony tomorrow and will receive an honorary doctorate of business.

Priya Balasubramaniam, vice president of iPhone operations at Apple Inc., will speak at the 2 p.m. ceremony tomorrow and will receive an honorary doctorate of engineering.

Also at that ceremony, Henry Regier, professor emeritus at the University of Toronto, will receive an honorary doctorate of science.

Michael VanRooyen, director of the Harvard Humanitarian Initiative, will address graduates at the advanced degree ceremony held at 3:30 p.m. today. He will receive an honorary doctorate of humanities.

At that ceremony, Carl Folke, director of the Beijer Institute of Ecological Economics, will receive an honorary doctorate of science.

C. University achievements

The 2017 CASE V Awards were announced, and CABS received several awards. The work around "Your Tomorrow" is in the Platinum category for "Best Practices in Communications and Marketing." CABS won a gold for the 2016 President's Report from this spring, a gold for Excellence in Photography for the MSUToday feature, A Seat at the Table, and Best Viewbook gold award for the completely redesigned MSU viewbook.

The MSU Department of Agricultural, Food and Resource Economics is ranked fourth in the world for its excellence in the agricultural and applied economics profession.

*Financial Times* ranked the Broad College's Executive MBA program in the top 10 U.S. public programs.

The Kellogg Hotel & Conference Center won Best Lansing Area Hotel by MSAE members. This is the second annual Association Choice Awards and Kellogg's second year winning.

D. Faculty and Staff Achievements

Rachel Croson, dean of the College of Social Science and Foundation Professor of Economics, is the 2017 recipient of a national award honoring individuals who have furthered the status of women in the economics profession. The Carolyn Shaw Bell Award is presented by the American Economic Association's Committee on the Status of Women in the Economics Profession.

MSU's game design program has been ranked number one in the Big Ten.

E. Student Achievements

Team Aperio, comprised of MSU students and students from around the world, was awarded the gold for its campaign during CommArtSci's Minds Wide Open.

A team of four MSU students from the Sales Leadership Minor won the National Team Selling Competition October 12–13 at Indiana University.

E. Athletics

Former MSU All-American wide receiver Kirk Gibson was inducted into the College Football Hall of Fame at the 60th annual National Football Foundation Annual Awards Dinner.

F. Facilities and Infrastructure Report

Dan Bollman, Associate Vice President for Strategic Infrastructure Planning and Facilities, presented the Facilities and Infrastructure Report. The report is available at [www.ipf.msu.edu](http://www.ipf.msu.edu).

G. Statement on Nassar

President Simon made the following statements on issues relating to Larry Nassar.

Last week, Larry Nassar was sentenced to 60 years in federal prison. He will spend the rest of his life behind bars.

When the verdicts were issued on the criminal charges, I was relieved that a modicum of justice had been provided to those so deeply hurt by his crimes.

I felt that the top priority from the beginning was for the MSU Police to expend whatever time, energy, and resources were necessary to help bring Nassar to justice. I want to again express my respect and appreciation for those officers who worked tirelessly to accomplish that goal.

Over the past months, I have been intensely focused on making sure nothing interfered with the criminal investigation or bringing Nassar to justice. I also have been focused on taking steps to strengthen every part of MSU's operations, policies, and procedures that might in any way be improved to prevent something such as this from happening again.

Since Fall 2016, MSU has engaged external experts to comprehensively review the MSU HealthTeam, the Title IX program, and how medical services are provided to student-athletes. We have restructured reporting lines, strengthened mandatory reporting compliance, and, in the case of youth protection, created a new position. Details about this work are available on the Our Commitment website.

As I have said before, it is critical to build a culture in our community where victims feel they can speak out confidently knowing their voice will be heard. It is only when brave women such as those here today are prepared to step forward that our community will be safer from the plague of sexual assault. Without your courage, Nassar would not be behind bars. Thank you.

I am truly sorry for the abuse you suffered, the pain it caused, and the pain it continues to cause today. I am sorry a physician who called himself a Spartan so utterly betrayed your trust and everything this University stands for.

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

Provost Youatt presented the following personnel actions:

Moore, Anna, AN– Professor, Department of Radiology, College of Human Medicine, \$240,000, with Tenure, effective January 1, 2018.

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

The following promotions include the award of tenure and are recommended to be effective January 1, 2018.

Hamilton Wray, Tama, AY – promotion to Associate Professor with tenure, Residential College in the Arts & Humanities.

Martinez Hackert, Erik, AY – promotion to Associate Professor with tenure, Biochemistry and Molecular Biology, College of Osteopathic Medicine.

Sisk, Cheryl, AN – Associate Dean, College of Natural Science, change of title to Interim Dean, College of Natural Science, with a change in salary to \$300,000, effective January 1, 2018.

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

**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 August 7, 2017 through November 17, 2017. The report is a compilation of 870 Gifts, Grants and Contracts, plus 69 Consignment/Non-Cash Gifts, with a total value of \$177,220,366.

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

Vice President Hsu introduced Dr. Bruno Basso, MSU Foundation Professor, Department of Earth and Environmental Sciences and W.K. Kellogg Biological Station, who presented to the Board on technologies to enhance agricultural sustainability. (Appendix A)

8. Finance Committee

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

A. Fund Functioning as an Endowment—James and Kathleen Cornelius Chair

It was recommended that the Board of Trustees establish a fund functioning as an endowment to provide support for a chair appointed by the President.

BE IT RESOLVED that the Board of Trustees of Michigan State University hereby establishes a fund functioning as an endowment entitled "James and Kathleen Cornelius Chair."

Trustee Foster **moved to approve** the resolution, with support from Trustee Mosallam.

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

B. Fund Functioning as an Endowment—The John H. Mueller Endowed Scholarship for Student Support in the School of Hospitality Business

It was recommended that the Board of Trustees establish a fund functioning as an endowment to provide support for scholarships in The School of Hospitality Business in the Eli Broad College of Business.

BE IT RESOLVED that the Board of Trustees of Michigan State University hereby establishes a fund functioning as an endowment entitled "The John H. Mueller Endowed Scholarship for Student Support in The School of Hospitality Business".

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

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

C. Fund Functioning as an Endowment – Joyce Johnson Seymour Quality Enhancement Endowment

It was recommended that the Board of Trustees establish a fund functioning as an endowment to provide support for the College of Music.

BE IT RESOLVED, that the Board of Trustees of Michigan State University hereby establishes a fund functioning as an endowment entitled "Joyce Johnson Seymour Quality Enhancement".

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

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

- D. Fund Functioning as an Endowment – William and Sarah E. Hinman Scholarship Fund

It was recommended that the Board of Trustees establish a fund functioning as an endowment to provide scholarships to students from Lansing high schools.

BE IT RESOLVED, that the Board of Trustees of Michigan State University hereby establishes a fund functioning as an endowment entitled "William and Sarah E. Hinman Scholarship Fund".

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

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

- E. Fund Functioning as an Endowment – Engineering Graduate Studies Endowment

It was recommended that the Board of Trustees establish a fund functioning as an endowment to provide support for graduate fellowships in the College of Engineering.

BE IT RESOLVED, that the Board of Trustees of Michigan State University hereby establishes a fund functioning as an endowment entitled "Engineering Graduate Studies Endowment".

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

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

- F. Reappointment of External Investment Advisory Subcommittee Member

It was recommended that the Board of Trustees reappoint Randy Cowen to the Investment Advisory Subcommittee.

BE IT RESOLVED, that the Board of Trustees of Michigan State University hereby reappoints Randy Cowen as an external member of the Investment Advisory Subcommittee for a three-year term commencing January 1, 2018.



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

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

G. Purchase of 516 Monroe Avenue NW in Grand Rapids, Michigan

It was recommended that the Board of Trustees authorize the purchase of approximately 0.25 acres of commercial property located at 516 Monroe Avenue NW, Grand Rapids, Michigan.

BE IT RESOLVED, that the Board of Trustees of Michigan State University hereby authorizes the Administration to purchase the real property located at 516 Monroe Avenue NW, Grand Rapids, Kent County, Michigan from the Ralph Seigel Family Income Trust for \$600,000 and upon such other terms and conditions as may be acceptable to the Executive Vice President for Administrative Services.

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

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

H. McLaren Greater Lansing Real Estate Purchase from the MSU Foundation

To support a collaboration between Michigan State University and McLaren Greater Lansing arising out of the construction of a new hospital and related facilities by McLaren Health Care Corporation (McLaren) on land in the University Corporate Research Park (UCRP) that the Michigan State University Foundation (MSUF) will convey to McLaren, the Trustee Finance Committee recommends that the Board of Trustees authorize the amendment or termination of its existing rights affecting the UCRP and the placement of restrictions on a portion of MSU's property adjacent to the UCRP.

BE IT RESOLVED, that in order to enable the MSU Foundation to sell certain real property at the University Corporate Research Park to McLaren Health Care Corporation (McLaren) and McLaren to develop that property for health care purposes, and to facilitate related strategic collaborations among the University, McLaren, and McLaren Greater Lansing, the Board of Trustees of Michigan State University hereby authorizes the Administration (a) to amend or

terminate the Deed Restrictions and Option to Purchase with respect to the University Corporate Research Park; and (b) to place restrictive use covenants described in Exhibit A on the property depicted in Exhibit B, both attached to this resolution.

Trustee Foster **moved to approve** the resolution, with support from Trustee Mosallam.

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

I. Authorization to Plan – Food Science – Fruit and Vegetable Laboratory Renovation

It was recommended that the Board of Trustees authorize the Administration to plan for renovations to the Malcolm G. Trout Food Science and Human Nutrition Building (Food Science Building) that will support teaching and learning, research, and outreach associated with fruit and vegetable food processing.

BE IT RESOLVED, that the Board of Trustees of Michigan State University hereby authorizes the Administration to plan for the project entitled "Food Science – Fruit and Vegetable Laboratory Renovation."

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

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

J. Authorization to Plan – Cowles House – Elevator and Interior Renovations

It was recommended that the Board of Trustees authorize the Administration to plan for renovations to Cowles House to address accessibility and allow greater use of the building.

BE IT RESOLVED, that the Board of Trustees of Michigan State University hereby authorizes the Administration to plan for the project entitled "Cowles House - Elevator and Interior Renovations."

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

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

K. Authorization to Plan – Facility for Rare Isotope Beams – High Rigidity Spectrometer and Isotope Experimental Vault

It was recommended that the Board of Trustees authorize the Administration to plan for installation of a vault at the Facility for Rare Isotope Beams (FRIB) to add additional research capability.

BE IT RESOLVED, that the Board of Trustees of Michigan State University hereby authorizes the Administration to plan for the project entitled "Facility for Rare Isotope Beams - High Rigidity Spectrometer and Isotope Harvesting Experimental Vault."

Trustee Foster **moved to approve** the resolution, with support from Trustee Mosallam.

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

L. Authorization to Plan—Facility for Rare Isotope Beams—Cryogenic Assembly Building

It was recommended that the Board of Trustees authorize the Administration to plan for construction of a building dedicated to cryogenic experiments within the Facility for Rare Isotope Beams.

BE IT RESOLVED, that the Board of Trustees of Michigan State University hereby authorizes the Administration to plan for the project entitled "Facility for Rare Isotope Beams - Cryogenic Assembly Building."

Trustee Foster **moved to approve** the resolution, with support from Trustee Mosallam.

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

M. Project Approval – Authorization to Proceed – Student Services – Replace Windows and Air Handling Units (2016-2017 Major Maintenance Projects)

It was recommended that the Board of Trustees authorize the Administration to proceed with capital improvements to the infrastructure of the Student Services Building.

BE IT RESOLVED, that the Board of Trustees of Michigan State University hereby authorizes the Administration to proceed with the

project entitled "Student Services - Replace Windows and Air Handling Units," with a project budget of \$5,700,000.

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

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

- N. Project Approval - Authorization to Proceed - Wells Hall - Replace Induction Units - Phase 2 of 2 (17-18 capital renewal)

It was recommended that the Board of Trustees authorize the Administration to proceed with the second phase of upgrades to the heating and cooling system in Wells Hall.

BE IT RESOLVED, that the Board of Trustees of Michigan State University hereby authorizes the Administration to proceed with the project entitled "Wells Hall - Replace Induction Units - Phase 2 of 2," with a budget of \$3,500,000.

Trustee Foster **moved to approve** the resolution, with support from Trustee Mosallam.

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

- O. Project Approval – Authorization to Proceed – Cook Hall – Building Renovation

It was recommended that the Board of Trustees authorize the Administration to proceed with renovations to Cook Hall.

BE IT RESOLVED, that the Board of Trustees of Michigan State University hereby authorizes the Administration to proceed with the project entitled "Cook Hall - Building Renovation", with a project budget of \$4,800,000.

Trustee Foster **moved to approve** the resolution, with support from Trustee Mosallam.

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

- P. Final Post-Bid and Contract Award Budget—Wilson Road Extension

It was recommended that the Board of Trustees establish the final, post-bid and contract award budget for the previously approved "Wilson Road Extension Project."

BE IT RESOLVED, that the Board of Trustees of Michigan State University hereby establishes a project budget of \$11,100,000 for the project entitled "Wilson Road Extension."

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

**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 three years, commencing January 1, 2018, and ending December 31, 2020.

Dave Porteus for a term of three years, commencing January 1, 2018, and ending December 31, 2020.

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

**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 MSU employee Dr. Laura Apol.

BE IT RESOLVED, that the Board of Trustees of Michigan State University hereby approves a contract with Dr. Laura Apol, consistent with earlier public notice given at a Board meeting and

with a "Publishing Contract Term Sheet" presented to the Board.  
(Appendix B)

It was recommended that the Board of Trustees approve a contract between Michigan State University and *BoroPharm, Inc.*, a company in which faculty members Dr. Robert E. Maleczka and Dr. Milton R. Smith hold a financial interest.

BE IT RESOLVED, that the Board of Trustees of Michigan State University hereby approves a license agreement with *BoroPharm, Inc.*, consistent with earlier public notice given at a Board meeting and with a "License Agreement Term Sheet" presented to the Board.  
(Appendix C)

It was recommended that the Board of Trustees approve a contract between Michigan State University and *BoroPharm, Inc.*, a company in which faculty members Dr. Robert E. Maleczka and Dr. Milton R. Smith hold a financial interest.

BE IT RESOLVED, that the Board of Trustees of Michigan State University hereby approves an amended agreement with *BoroPharm, Inc.*, consistent with earlier public notice given at a Board meeting and with an "Amended Agreement Term Sheet" presented to the Board. (Appendix D)

It was recommended that the Board of Trustees approve a contract between Michigan State University and MSU employee Dr. Theodore S. Ransaw.

BE IT RESOLVED, that the Board of Trustees of Michigan State University hereby approves a contract with Dr. Theodore Ransaw, consistent with earlier public notice given at a Board meeting and with a "Publishing Contract Term Sheet" presented to the Board.  
(Appendix E)

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

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

D. Notice of Intent to Negotiate Contracts

Pursuant to State law, the Chair of the Policy Committee is requested to give public notice of the University's intent to negotiate contracts with *MagPlasma, Inc.*, a Michigan corporation. Dr. Thomas

Schuelke, a Professor in the Department of Electrical and Computer Engineering, Dr. Qi Hua Fan, an Associate Professor in the Department of Electrical and Computer Engineering, and Mr. Martin E. Toomajian, an employee in the Office of the Executive Vice President for Administrative Services, and members of their families, have, or have options to buy, an interest in the company.

Pursuant to State law, the Chair of the Policy Committee is requested to give public notice of the University's intent to negotiate contracts with Dr. Tama Hamilton-Wray. Dr. Hamilton-Wray is an Assistant Professor in the Residential College in the Arts and Humanities.

#### 10. Compensation Committee

Trustee Mosallam presented the Trustee Compensation Committee Report.

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 has met for that purpose.

Earlier this year, the Board conducted its annual evaluation of the President, and it believes she continues to excel on the performance criteria established by the Board. President Simon has the Board's full support of her leadership of Michigan State University.

In recognition of President Simon's many extraordinary contributions to the University, in the spirit of President Emeritus John A. Hannah, the Board directs the Provost to appoint President Simon as a John A. Hannah professor with all of the rights and privileges associated with a Hannah professorship.

Further, the Board believes that the President's strong performance merits a salary increase of five percent consistent with the raise provided this year to the University's highest performing faculty. In lieu of taking that raise, the Board and the President have agreed that the Board will transfer a like amount to the Roy J. and Lou Anna K. Simon Scholarship Fund to be administered as a scholarship for first-generation college students.

The Board applauds the commitment that Drs. Roy J. and Lou Anna K. Simon have made to give back to the University through generous, regular, and substantial financial contributions. Based on their cash and estate giving, the Simons are members of MSU's Joseph R. Williams Society. The Simons' current cash gifts to MSU exceed \$1.4 million.

Therefore, the Compensation Committee recommends, and I move, that the Board of Trustees directs the Provost to appoint the President as a John A. Hannah professor. Further, the Board of Trustees directs that \$150,000 is to be transferred into the Roy J. and Lou Anna K. Simon Scholarship Fund.

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

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

11. Trustee Comments

Trustee Breslin made the following statement on behalf of the Board of Trustees:

Last week, former MSU physician Larry Nassar was sentenced to the equivalent of life in federal prison. We are deeply saddened by the stories of abuse that led to this moment and grateful for the courage the victims showed in coming forward. We are genuinely sorry for what happened to you and express our deepest sympathies to each and every one of you, particularly those of you here today.

To express our concern for and commitment to the brave young women, we are establishing a \$10 million fund for counselling and mental health services and instruct the MSU leadership team to accomplish this with the utmost urgency.

Over the past 15 months, since Nassar's criminal actions were first brought to our attention, the Board has been focused on understanding what work we can and must do to provide a safer campus environment. As President Simon said earlier, we have taken a hard look at areas where we can improve and acted quickly and decisively. Whether it is the MSU HealthTeam, our Title IX program, how medical services are provided or how we protect youth on campus, steps have been and continue to be taken to better serve our MSU community.

We understand and respect the public's desire for information and details about these matters. However, we are still engaged in civil litigation, and it is simply not appropriate in most instances to offer specific details while that process continues. Our hope has been and continues to be for a fair and just resolution.

What we can state emphatically is that it is simply not true that there has been any kind of cover-up. From the outset, we have directed our counsel to report immediately to us and to relevant law enforcement any knowledge



of criminal behavior. We stand before you today and tell you that no such person has been identified to us.

We hope you understand that when we push back against accusations made by plaintiffs' lawyers about the university, and the University defends itself in the civil litigation, it is not a reflection of our view of the victims, for whom we have the utmost respect and sympathy, but our desire to set the record straight and to protect MSU's educational and research missions.

Finally, we would like to thank the MSU Police Department, FBI, Attorney General, and the US Attorney for their roles in bringing Nassar to justice and reaffirm our full confidence in and support for President Simon and her leadership during this difficult time.

Trustee Mosallam apologized for the pain Larry Nassar's victims have endured and affirmed that the Board is more concerned with the safety of women and girls than with the MSU brand.

Trustee Kelly affirmed his full confidence in the justice system and stated that he has no objections to the public stating their opinions regarding the Board. Trustee Kelly also stated that he will make the best decision to the best of his ability according to the information received. He also apologized to the victims and their parents.

Trustee Foster stated that she is confident that no one at the University is or was hiding anything regarding the Larry Nassar investigation. She also thanked President Simon and Dr. Roy Simon for their leadership and generosity to MSU.

Trustee Byrum apologized to the victims for what they experienced and wanted them to know that she is listening to them. She stated that she is committed to changing the systems that allowed a predator such as Larry Nassar to exist.

Trustee Perles said that he expected all investigations to be done in an honest manner.

Trustee Lyons apologized to the victims and reiterated that the Board would put the victims before concerns regarding the MSU brand.

Trustee Ferguson thanked President Simon for her leadership.

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

### A. Child and Athlete Safety

Lisa Lorincz, the mother of a Larry Nassar victim, spoke about her daughter's experiences and the effects of her abuse. Ms. Lorincz stated that it is important to focus on change in order for the University to heal.

Kaylee Lorincz, a victim of Larry Nassar, spoke about the abuse she suffered. Ms. Lorincz said that she was referred to Larry Nassar at age 11 for treatment after experiencing back pain due to gymnastics training. Ms. Lorincz said that the abuse still traumatizes her.

**B. Me Too; Nassar investigation**

Jessica Smith, a victim of Larry Nassar, spoke about the need for change on campus and the need to help those who were hurt. Jessica asked MSU to have integrity and ownership of negligence for what has occurred.

Hannah Thomas, Michigan resident, spoke of the necessity of an external investigation into the Larry Nassar case after litigation ends. Hannah spoke about how many women who shared their stories about abuse from Larry Nassar were silenced.

Morgan McCall, a victim of Larry Nassar, stated that MSU has failed to protect many women, but still has the opportunity to do the right thing. Ms. McCall called for transparency and for the release of any documents associated with the internal investigation.

Anna Cumming, Michigan resident, urged the Board to hold itself accountable for Larry Nassar's actions, and to acknowledge and act upon the reports of survivors. Ms. Cumming stated the need for the University to evaluate itself and hold those who were complicit in Larry Nassar's abuse accountable.

13. 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 15, 2017

BRUNO BASSO  
MSU FOUNDATION PROFESSOR  
DEPT. OF EARTH AND  
ENVIRONMENTAL SCIENCES  
W.K. KELLOGG BIOLOGICAL STATION

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

# Digital Agriculture: science and technologies to enhance sustainability of agricultural systems across spatial scales

**Bruno Basso**

**MSU Foundation Professor**

Dept. Earth and Environmental Sciences and W.K.  
Kellogg Biological Station

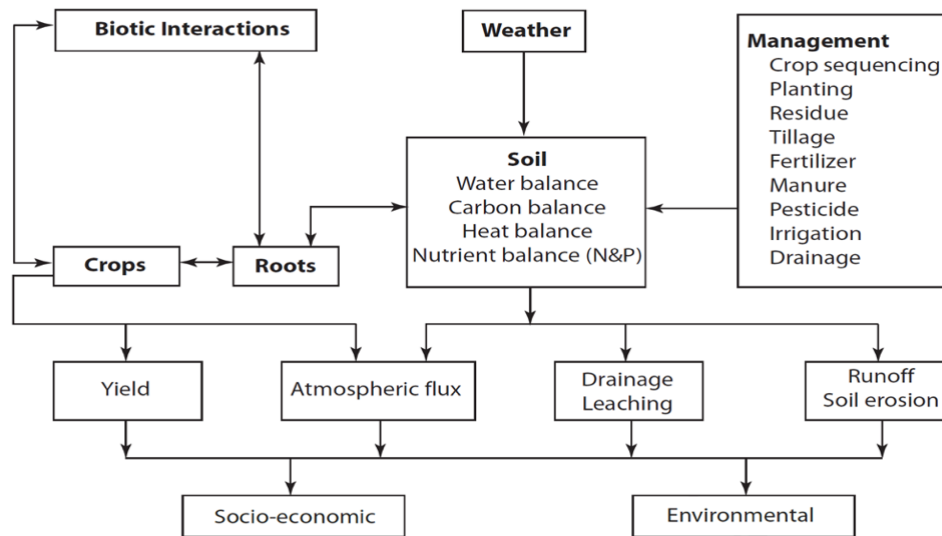
**MICHIGAN STATE** UNIVERSITY

# Precision Agriculture = Digital Agriculture

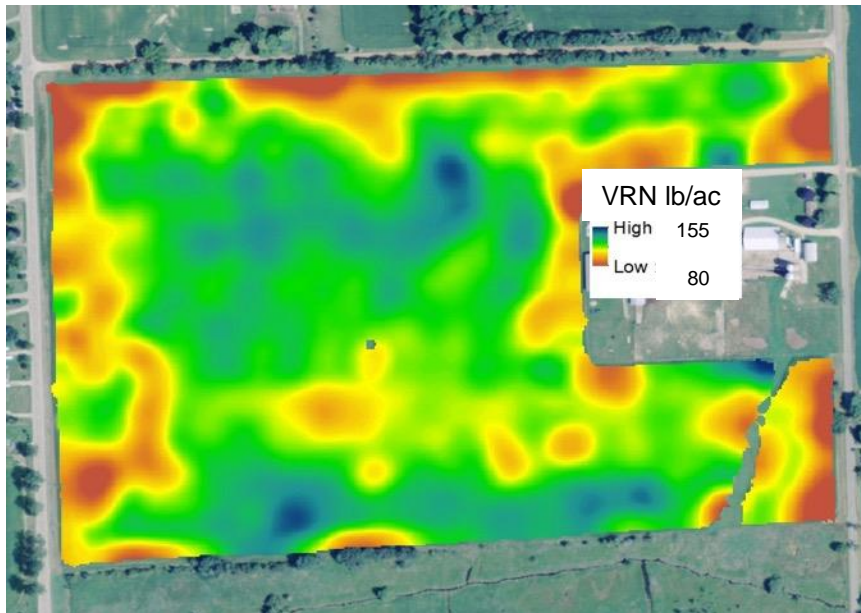




## Diagram of Salus Crop Simulation Model



Drone flying over a wheat field



From pretty maps to actual **Rx** map

Application of Variable Rate of Nitrogen Fertilizer – some area receive 80 lb/ac and others received 155 lb/ac to match plant N demand

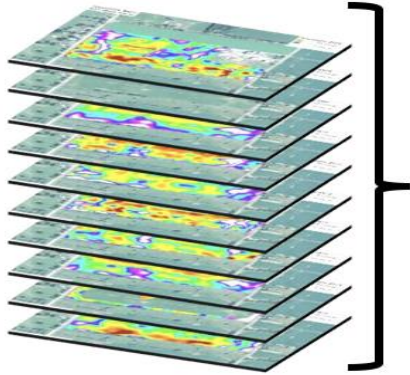


The helmet is created by planting different corn varieties with darker leaves



# Understanding spatial and temporal variability

## Overlay of yield maps



Spatial variability

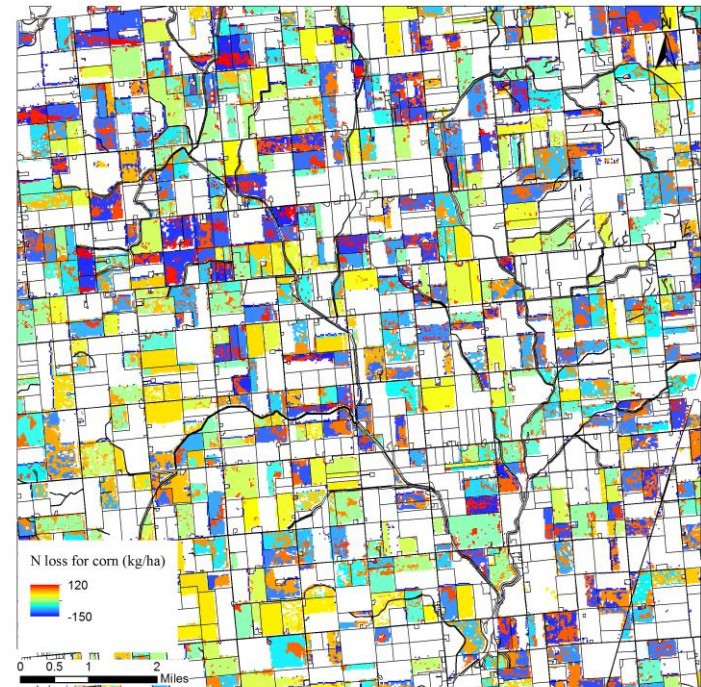
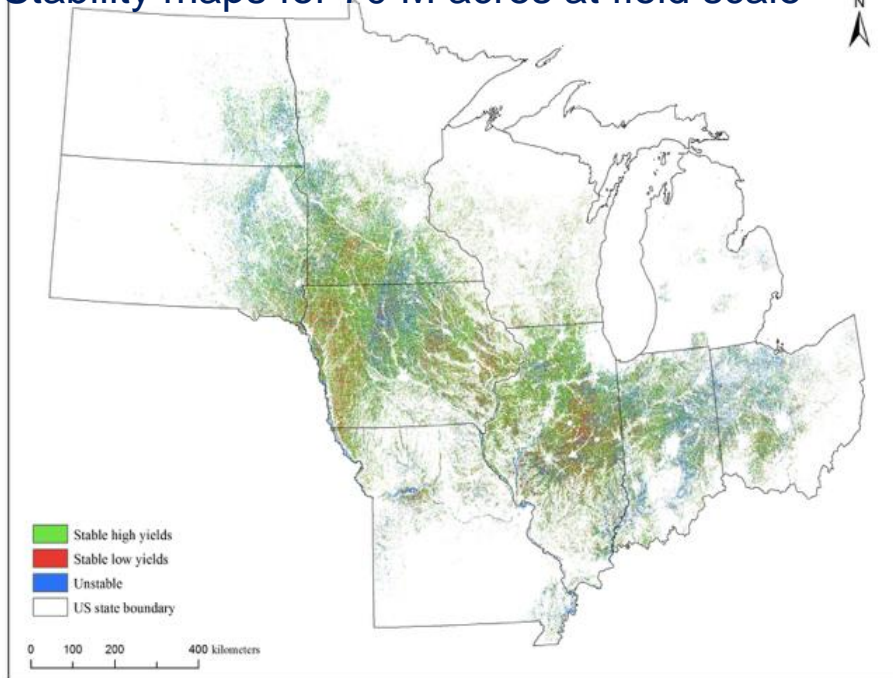


Temporal variance



Stability map

## Stability maps for 70 M acres at field scale



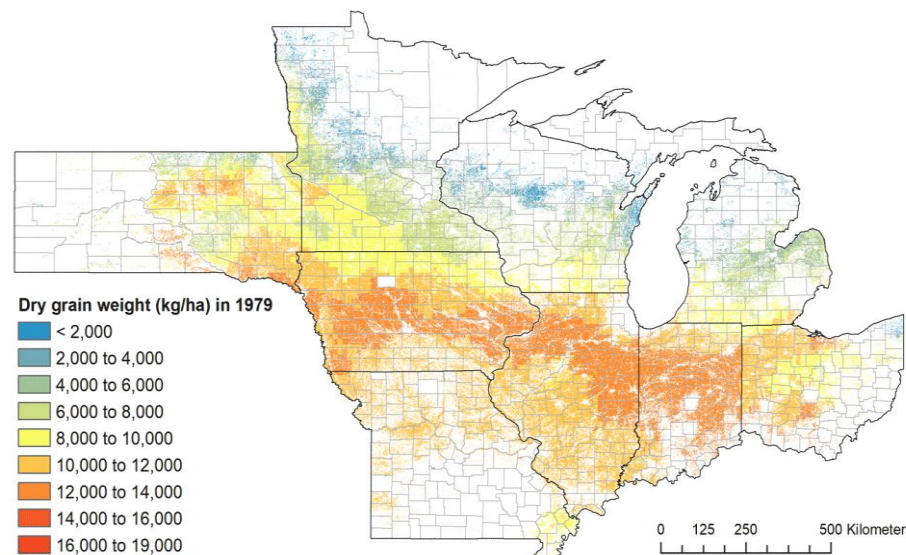
Maps of Nitrogen fertilizer losses in kg/ha

## Our recent analysis at field scale shows:

- 1.4 Tg N yr<sup>-1</sup> of unused N fertilizers is lost to the Gulf of Mexico
- ~ 600 Million US\$ yr<sup>-1</sup> are wasted from plant unused fertilizers
- 1.1 Billion Giga Joules of energy are used to produce unused fertilizer
- 720 Billion Metric tons yr<sup>-1</sup> are lost to the atmosphere

## Across 70 M acres of corn field in US Midwest, on average

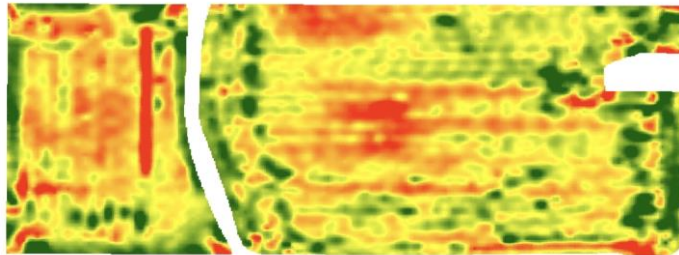
- 48% of the area of fields are highly productive and stable
- 25% have low productivity and stable
- 27% are unstable (they fluctuate from year to another)



Modeling changes  
in corn grain yield at  
field scale across  
the US Midwest

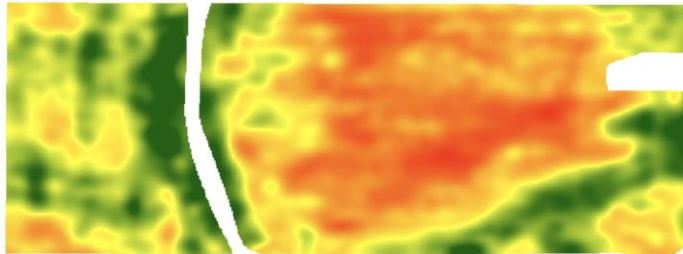


# Profitability vs Sustainability



Net Profit (dollars/acre)

High : \$1176  
Low : \$310

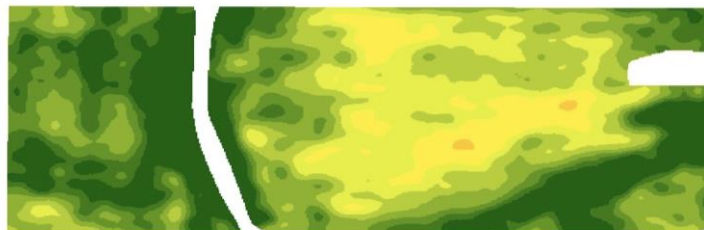


Net Profit (dollars/acre)

High : \$740  
Low : -\$148

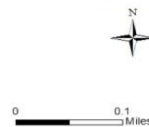


2012 with only 30 lb N/ac



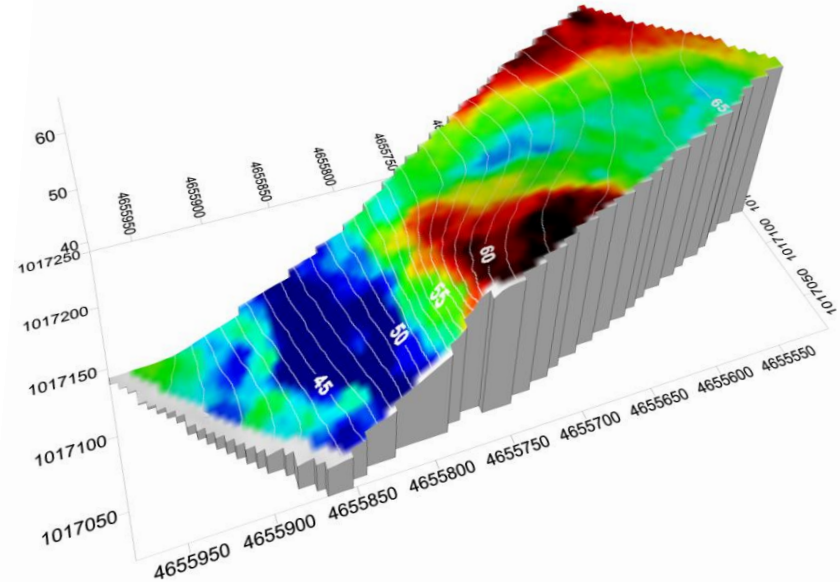
Net Profit (dollars/hectare)

-\$400 to -\$300    \$0 to \$200    \$800 to \$1,000  
 -\$300 to -\$200    \$200 to \$400    \$1,000 to \$1,200  
 -\$200 to -\$100    \$400 to \$600    \$1,200 to \$1,400  
 -\$100 to \$0    \$600 to \$800    > \$1,400

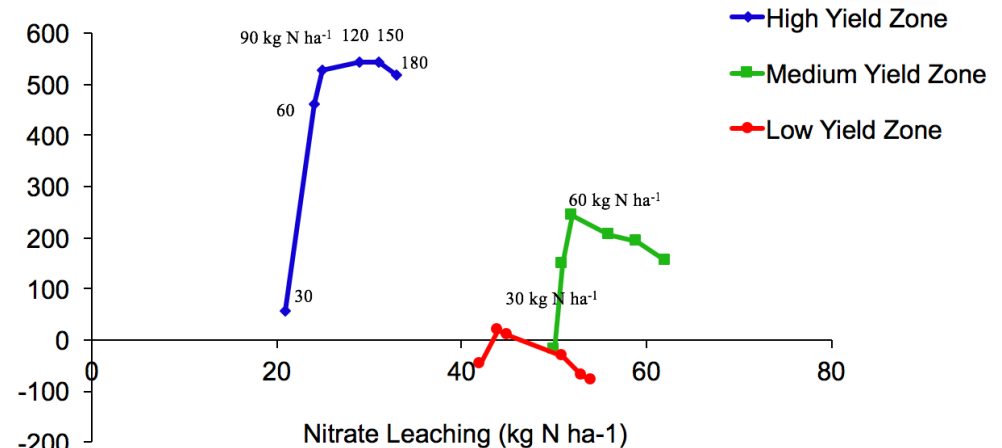


Changes in profit

## 3-D Tomography



ha<sup>-1</sup>)



Dual-criteria optimization for profit and environment



[www.cibotechnologies.com](http://www.cibotechnologies.com)



2017

AgTech Award to CiBO

## Patents

1. Methods and systems for precision crop management
2. Methods for mapping temporal and spatial stability, and sustainability of a cropping system



Investment in CiBO US\$ 36,000,000 from Venture Capital – Flagship Pioneering, GenerationIM, Founders Fund, Alexandria, MSU Foundation

Initial funding of Basso's technology was kindly provided by MSU-Technology

**MSU MTRAC**

# Milestones



Vice President Al Gore,  
Nobel Peace Prize 2007



MSU 2016  
Innovation of  
the year



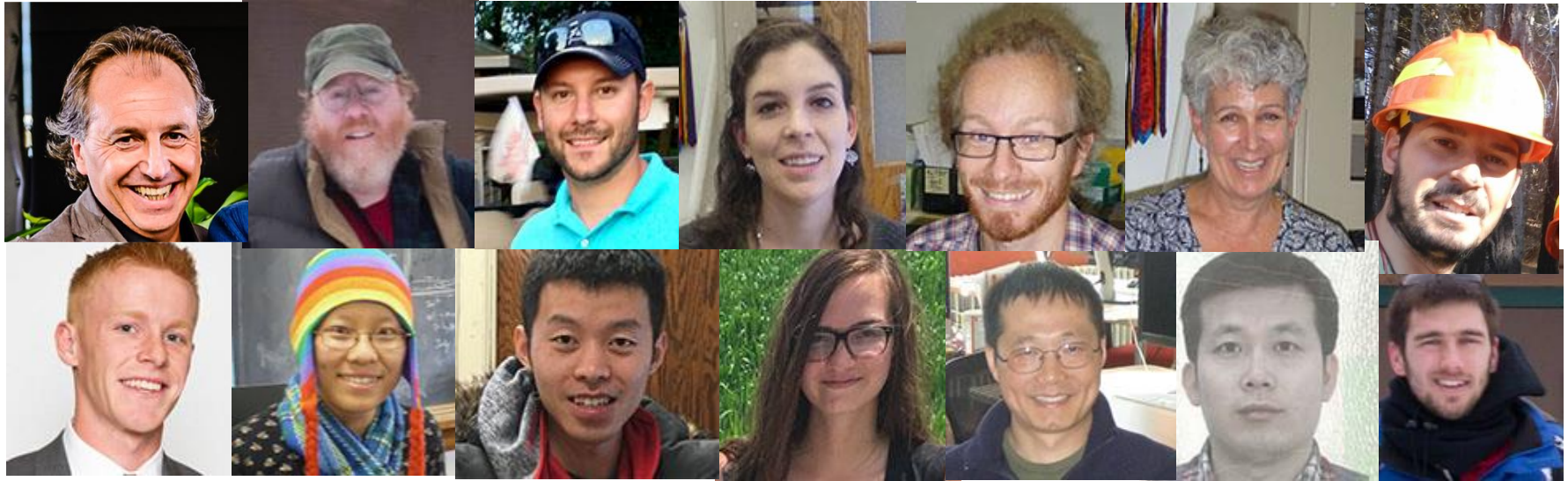
Howard W. Buffett & Julie Borlaug



Forecasting  
food production  
in East Africa



## The Basso Computational Agronomy Lab



## Funding sources:



MSU MTRAC



**PUBLISHING CONTRACT TERM SHEET**

**Party:** Dr. Laura Apol

**Project Description:** Publication of a book of 44 original poems, *Nothing but the Blood*

**Term:** Immediate publication

**Agreement:** Dr. Apol will receive 5% of net revenue from net copies sold of all print editions up to 1,000 units plus 8% of net revenue from net copies sold thereafter, 12% of the net revenue from net units sold of electronic editions, twenty free copies of each edition, and additional copies at a 40% discount from the retail price.

**Services Provided:** By MSU to Dr. Apol (as author): Publication of book under standard MSU Press terms and conditions  
By Dr. Apol (as author) to MSU: Delivery of manuscript for publication under standard MSU Press terms and conditions

**Use of University Facilities/ Personnel:** Not applicable

**Organization Type:** Dr. Apol is acting as an individual.

**Personnel Interest:** Dr. Apol is an Associate Professor in the MSU Department of Teacher Education.

**LICENSE AGREEMENT TERM SHEET**

<b>Party:</b>	BoroPharm, Inc.
<b>Agreement:</b>	Exclusive rights to US Patents US 6828466, 6867302, 6878830, 6958420, 7148356, 7329769, and 7514563  The parties may add or remove technologies provided that the change does not affect the financial consideration or the nature of the pecuniary interest.
<b>Term:</b>	From the effective date to expiration or termination of the last of the patent rights
<b>Payment Terms:</b>	\$10,000 up-front fee, running royalties of 4% of net sales on the first \$1,000,000 plus a milestone payment of \$50,000 and 3% of net sales above the first \$1,000,000
<b>Technology's Potential Commercial Utilization:</b>	Processes for the synthesis of Boron-containing compounds
<b>Services Provided:</b>	By MSU to BoroPharm, Inc.: None contemplated under the agreement  By BoroPharm, Inc. to MSU: None contemplated under the agreement
<b>Organization Type:</b>	Delaware corporation
<b>Personnel Interest:</b>	Dr. Robert E. Maleczka and Dr. Milton R. Smith, both Professors in the Department of Chemistry, and members of their families own or have options to buy an ownership interest of more than 1% of the company.



**AMENDED AGREEMENT TERM SHEET**

<b>Party:</b>	BoroPharm, Inc.
<b>Amended Agreement:</b>	Amendment to the terms and rates of the pilot plant use agreement executed on December 13, 2011 and amended on March 17, 2014 and March 14, 2016
<b>Project Description:</b>	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
<b>Term:</b>	Eight years, unless terminated earlier by either party
<b>Contract Terms:</b>	BoroPharm, Inc. is responsible for providing all raw materials, shipping all products and disposal of all wastes generated. BoroPharm, Inc. payments to MSU under the amended agreement will be governed by the attached rate sheet.
<b>Services Provided:</b>	<p>By MSU to BoroPharm, Inc.: Pilot plant scale-up of chemical syntheses with associated analytical services as ordered</p> <p>By BoroPharm, Inc. to MSU: None contemplated under the agreement</p>
<b>Use of University Facilities and Personnel:</b>	MSU personnel will execute the pilot plant synthesis runs in the MSU facility in Holland, MI, and provide any mutually agreeable supplemental analytical services.
<b>Organization Type:</b>	Delaware corporation headquartered in Novi, MI with R&D facilities in Ann Arbor, MI
<b>Personnel Interest:</b>	Dr. Robert E. Maleczka and Dr. Milton R. Smith, both Professors in the Department of Chemistry, and members of their families own or have options to buy an ownership interest of more than 1% of the company.

**PUBLISHING CONTRACT TERM SHEET**

**Party:** Dr. Theodore S. Ransaw

**Project Description:** Publication of a book, *The Handbook of Research on Black Males: Quantitative, Qualitative and Multidisciplinary*, co-edited by Dr. Theodore Ransaw, as part of a series entitled *International Race and Education*.

**Term:** Immediate publication

**Agreement:** Each co-editor will receive 1.5% of net revenue from net copies sold of all editions, plus three free copies each and additional copies at a 40% discount from the retail price.

**Services Provided:** By MSU to Dr. Ransaw (as co-editor): Publication of book under standard MSU Press terms and conditions  
By Dr. Ransaw (as co-editor) to MSU: Delivery of manuscript for publication under standard MSU Press terms and conditions

**Use of University Facilities/ Personnel:** Not applicable

**Organization Type:** Dr. Ransaw is acting as an individual.

**Personnel Interest:** Dr. Ransaw is a Specialist in the James Madison College.