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

December 14, 2018

President Engler called the meeting of the Board of Trustees to order at 8:00 a.m. in the Board Room.

Trustees present: Brian Breslin, Dianne Byrum, Joel Ferguson, Melanie Foster, Dan Kelly, Mitch Lyons, and Brian Mosallam.

University officers present: President Engler, Provost and Executive Vice President Youatt, Secretary Barr, Vice President and General Counsel Young, Executive Vice Presidents Udpa and Wilbur, Vice Presidents Bales, Gore, Guerrant, Haas, Hsu, Maybank, Swain, and Zecher, Senior Advisor and Director Granberry Russell, and Chief of Staff Zeig. Faculty liaisons present: Richard Bellon, Jennifer Johnson, Mike Kaplowitz, and Greg Swain. Student liaisons present: Ben Burke, Dan Lianco, and James Lui.

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 26, 2018 Board of Trustees meeting.

3. Board of Trustees Award Presentations

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

1. Alexa Baylis - Major: Mechanical Engineering; Member of the Honors College; 4.0 GPA
2. Marianne Nezich Common- Major: Communication; Member of the Honors College; 4.0 GPA
3. Raghav Jain - Major: Biochemistry and Molecular Biology; Member of the Honors College; 4.0 GPA
4. Dan Jian – Major: Human Biology; Member of the Honors College; 4.0 GPA
5. Hannah Jones - Major: Political Science-Prelaw; 4.0 GPA
5. Morgan Linn - Major: Arts and Humanities; Member of the Honors College; 4.0 GPA
6. Katherine Schlafhauser - Major: Communication; Member of the Honors College; 4.0 GPA
7. Philipp Waeltermann - Major: Mechanical Engineering; Member of the Honors College; 4.0 GPA

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

1. Minseo Baik – Major: Engineering; 4.0 GPA
2. Gino Caruso – Major: Human Biology; 4.0 GPA
3. Rachel Grimmer – Major: Accounting; 4.0 GPA
4. Noah Keppers – Major: Computer Science; 4.0 GPA
5. Heming Li – Major: Mathematics; 4.0 GPA
6. Alexa Magsoudi – Major: Human Biology; 4.0 GPA
7. Megan Makela – Major: Human Biology; 4.0 GPA
8. Lindsay Mensch – Major: English; 4.0 GPA
9. Ian Murray – Major: Computer Science; 4.0 GPA
10. Christopher Occhuito – Major: Physiology; 4.0 GPA
11. Caleb Sokolowski – Major: Human Biology; 4.0 GPA
12. John Stathakios – Major: Human Biology; 4.0 GPA
13. Heidi Surdyk – Major: Marketing; 4.0 GPA

4. Public Participation

A. George Honer
B. Lisa Lorincz
C. Kaylee Lorincz
D. Morgan McCaul
E. Dave Ware
F. Colin Wiebrecht
G. Bryan Tarrant
H. Julie Thomas Beckett
I. Leslie Miller
J. Emma Ann Miller
K. Adam Boyce
L. Melissa Wagner

5. President’s Report

President Engler provided the following report to the Board.

A. University achievements
Entrepreneurship

MSU's entrepreneurship & innovation ecosystem was recently honored by its peers in the category of outstanding contributions to venture creation. The Global Consortium of Entrepreneurship Centers, which includes more than 225 university-based entrepreneurship centers, honored MSU at its annual conference. MSU is represented in these activities by the MSU Hatch, MSU Undergraduate Entrepreneurship & Innovation and Spartan Innovations.

MSU's undergraduate entrepreneurship program has been listed among the top 25 in the nation by the Princeton Review. MSU launched the entrepreneurship & innovation minor in 2016. It has grown quickly with nearly 600 students in it now. I had the pleasure of visiting The Hatch in late October to sit down over pizza with a group of our student entrepreneurs.

Postdoctoral Fellows Office

The Office of Postdoctoral Affairs has been established to support the approximately 500 research associates and postdoctoral fellows on campus. The new office will enhance postdoctoral career development resources and assist with transitioning to other roles. The faculty advisor and interim director will be Associate Dean Antonio Nunez.

New Agricultural Research Station

The Corey Marsh Ecological Research Center officially opened last month, making it MSU's 14th off-campus AgBioResearch research center. It is 400 acres and will be used to study natural resource restoration and management, develop better land stewardship practices, and train undergraduates in field research and science communication.

B. Faculty and Staff achievements

APS Inductee

Richard Lenski, Hannah Distinguished Professor of Microbial Ecology, was inducted into the American Philosophical Society November 9, 2018 in Philadelphia. It is the oldest "learned society" in the United States, founded by Benjamin Franklin in 1743.
society aims to promote useful knowledge in the sciences and humanities through scholarly excellence. Professor Lenski is renowned for his studies of the evolutionary process, most notably the experiment with E. coli bacteria he began in 1988. He is also a founding member of the BEACON Center for the Study of Evolution in Action, which brings together MSU biologists, computer scientists and engineers.

AAAS Fellows

Two MSU researchers and a university communicator were named fellows by the prestigious American Association for the Advancement of Science. They earned the honors for their work advancing science and its applications. Federica Brandizzi, MSU Foundation Professor in the College of Natural Science, who works in plant cell biology; Remco Zegers, associate director for experimental nuclear physics in the National Superconducting Cyclotron Laboratory, who studies heavy ion collisions; and Sue Nichols, who is a strategic communicator in the Center for Systems Integration and Sustainability.

Teaching Award

World-renowned chemist and science educator Melanie Cooper, Lappan-Phillips Professor of Science Education, is the recipient of the 2018 Quality in Teaching Award from the MSU Alumni Club of Mid-Michigan. Professor Cooper is involved in evidence-based curriculum reform and assessment for large-enrollment chemistry classes, and has changed the landscape of STEM education at MSU. Her course, Chemistry, Life, the Universe and Everything (CLUE), and her novel Cooperative Chemistry Laboratory have given thousands of undergraduates a better understanding of chemistry and the ability to apply their learning skills to all areas of STEM education.

Mathematics fellow

Mathematics professor Efstratia Kalfagianni was named a fellow of the American Mathematical Society for 2019. She is one of just 65 mathematical scientists from around the world recognized by her peers for outstanding contributions to mathematics scholarship. She was nominated for her advancements in knot theory and 3-dimensional topology.

C. Student achievements
Rhodes Scholar

The Rhodes Trust is the oldest of the major international competitive award foundations. It provides a small number of outstanding undergraduates an opportunity for graduate study at the University of Oxford in England, in the subject of their choice. Rhodes scholars are chosen not only for their scholarly achievements, but also for their character, commitment to others and to the common good, and for their leadership potential. MSU is extremely proud that Nikkita Ngalande, an actuarial scientist from Zambia, has been selected as a Rhodes Scholar.

Cynthia Jackson-Elmoore, Dean of the Honors College, introduced Nikkita Ngalande and asked her to discuss her research.

D. Athletic achievements

Soccer

The Spartan Men's soccer team made its first NCAA College Cup appearance in 50 years. It was their first return since they won back-to-back national championships in 1967 and 1968. They lost to a tough Akron team loaded with international talent in the semifinals last Friday in Santa Barbara. Coach Damon Rensing's team is made of mostly Michigan and Midwestern players. MSU ended the season with a 14-5-4 record, tying the record for single-season wins.

Shooting sports

The MSU shooting sports competitive team has had a successful year, most recently at the American Collegiate National Tournament held in Marengo, Ohio. The team earned the Division 3 National Championship in skeet and bronze awards in both sporting clays and the "High Overall" category. The competitive shotgun team was formed only two years ago.

E. Retirements

Greg Ianni

MSU is sorry to bid farewell to deputy athletic director Greg Ianni at the end of January. Greg has been with Intercollegiate Athletics since 1993. In addition to overseeing facilities, Greg has administered sports event management as well as equipment, IT and
human resources. He also supervises men's and women's golf, and assists with football. Following his retirement next month, he will work in an advisory capacity for Bill Beekman until the expiration of his contract June 30, 2019.

Jim Dunlap

MSU is also saying goodbye to Police Chief Jim Dunlap after a long and accomplished career at Michigan State. The Board of Trustees presented Chief Dunlap with a resolution. (Appendix A)

F. Facility and Infrastructure Report

Dan Bollman presented the facility and infrastructure report, which can be found at http://www.ipf.msu.edu.

6. Gift, Grant and Contract Report

Vice President Hsu presented the Gifts, Grants, and Contracts Report for the period of August 4, 2018 through November 12, 2018. The report is a compilation of 768 Gifts, Grants and Contracts, plus 86 Consignment/Non-Cash Gifts, with a total value of $165,978,105.

Trustee Lyons moved to approve the report, supported by Trustee Ferguson.

THE BOARD VOTED to approve the report.

Vice President Hsu introduced Dr. Andrea Amalfitano, Interim Dean of the College of Osteopathic Medicine. Dean Amalfitano presented on Translational Research that Impacts Health Outcomes. One Researcher's Experience. (Appendix B)

7. Personnel Actions

Provost Youatt presented the following personnel actions.

1. Grimm, Michele, AY-Wielenga Creative Engineering Endowed Associate Professor, Department of Mechanical Engineering, with Tenure, effective January 1, 2019.

2. Bales, Merri Jo, AN- Vice President and Strategic Director of University Communications, Office of the Executive Vice President for Government and External Relations, Executive Management, effective November 28, 2018.
Other Personnel Actions

1. Amalfitano, Andrea, AN – Interim Dean, College of Osteopathic Medicine, for a change in title to Dean, College of Osteopathic Medicine, effective December 14, 2018.

2. Quinn, Brian, AN – Acting Deputy General Counsel, for a change in title to Deputy General Counsel, Executive Management, effective December 14, 2018.

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

The following promotion(s) include the award of tenure and are recommended to be effective January 1, 2019.

a. Hong, Heedeok, promotion to Associate Professor with tenure, Department of Chemistry.

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

THE BOARD VOTED to approve the recommendations.

8. Consent Agenda

To expedite the business of the Board and focus energies on items of greatest importance, the Board adopted a consent agenda that included the following items.

A. Committee on Budget and Finance (items iv, vii, and ix)

iv. Authorization to Plan – Replace Domestic Water service (McDonel, Wilson, Owen Halls)

It was recommended that the Board of Trustees authorize the Administration to plan for replacement of deteriorating water supply lines in selected residence halls.

BE IT RESOLVED, that the Board of Trustees of Michigan State University hereby authorizes the Administration to plan for the projects entitled “Replace Domestic Water Service (McDonel, Wilson, Owen Halls).”
vii. Authorization to Proceed – Veterinary Medical Center Alterations to Second Floor Locker Rooms

It was recommended that the Board of Trustees authorize the Administration to proceed with upgrades to the Veterinary Medical Center locker rooms that will better serve the students and address accreditation requirements.

BE IT RESOLVED, that the Board of Trustees of Michigan State University hereby authorizes the Administration to proceed with the project entitled “Veterinary Medical Center – Alterations to Second Floor Locker Rooms,” with a project budget of $1,600,000.

ix. Authorization to Proceed – T.B. Simon Power Plant – Install Reverse Osmosis System

It was recommended that the Board of Trustees authorize the Administration to proceed with installation of a reverse osmosis system to help reduce operational and chemical costs 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 – Install Reverse Osmosis System,” with a project budget of $1,000,000.

B. Committee on Academic Affairs (item ii)

ii. MSU Health Care Delegation of Authority

It was recommended that the Board of Trustees, as the sole corporate member of MSU Health Care, Inc. (the “Corporation”), delegate to the President of the University certain rights, powers, and authority of the Corporate Member of the Corporation.

BE IT RESOLVED, that the Board of Trustees delegates to the President of the University the authority to act on behalf of the Board as the Corporate Member of MSU Health Care, Inc. with respect to the business of the Corporation, except with regard to those reserved powers expressed in Sections 3.02(a) and 3.02(c-j) of the Corporation’s Bylaws.

C. Audit, Risk, and Compliance Committee (item i)
i. It was recommended that the Board of Trustees approve a contract between Michigan State University and Kopess Ag Tech, LLC, a company in which MSU Employees Dr. Kyung-Hwan Han and Okran Han hold a financial interest.

BE IT RESOLVED, that the Board of Trustees of Michigan State University hereby approves a sponsored research agreement with Kopess Ag Tech, LLC consistent with earlier public notice given at a Board meeting and with a "Sponsored Research Agreement Term Sheet" 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 IASO Therapeutics, Inc., a company in which MSU employees Dr. Xuefei Huang and Dr. Zhu Li hold a financial interest.

BE IT RESOLVED, that the Board of Trustees of Michigan State University hereby approves a sponsored research agreement with IASO Therapeutics, Inc., consistent with earlier public notice given at a Board meeting and with a "Sponsored Research Agreement Term Sheet" 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 Tarn BioSciences, Inc., a company in which MSU employee Dr. Robert Abramovitch holds a financial interest.

BE IT RESOLVED, that the Board of Trustees of Michigan State University hereby approves a sponsored research agreement with Tarn Biosciences, Inc., consistent with earlier public notice given at a Board meeting and with a "Sponsored Research Agreement Term Sheet" presented to the Board for inclusion in its minutes. (Appendix E)

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

THE BOARD VOTED to approve the resolutions.

9. Budget and Finance Committee

Trustee Foster presented the Trustee Finance Committee Report and the following recommendations and resolutions.
A. Reappointment of External Investment Advisory Subcommittee Member

It was recommended that the Board of Trustees reappoint Scott Eston to the Investment Advisory Subcommittee.

BE IT RESOLVED, that the Board of Trustees of Michigan State University hereby reappoints Scott Eston as an external member of the Investment Advisory Subcommittee for a three-year term commencing January 1, 2019.

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

THE BOARD VOTED to approve the resolution.

B. Revised Investment Policy – Investment Advisory Subcommittee

It was recommended that the Board of Trustees add additional members to the Investment Advisory Subcommittee and clarify the role of the various parties that engage with the Investment Advisory Subcommittee.

BE IT RESOLVED, that the Board of Trustees of Michigan State University hereby approves an amendment to its Investment Policy, Board Policy 01-07-01, as shown on Attachment A hereto; and

BE IT FURTHER RESOLVED, that the Board of Trustees of Michigan State University hereby approves an amendment to its Committee Structure, Board policy 01-01-09, as shown on Attachment B hereto; and

BE IT FURTHER RESOLVED, that the Board of Trustees of Michigan State University hereby approves an amendment to its Policy Manual Stipulations and Supporting Documents applicable to the Investment Advisory Subcommittee, as shown on Attachment C hereto; and

BE IT FURTHER RESOLVED, that the Board of Trustees of Michigan State University hereby approves all changes to its Committee Charters and all other Board documents and policies necessary to implement the actions in this Resolution. (Appendix F)
Trustee Foster **moved to approve** the resolution, with support from Trustee Breslin.

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

C. Planning and Replacement of the Student Information System

It was recommended that the Board of Trustees approves replacement of the Student Information System, including project planning and implementation.

BE IT RESOLVED, that the Board of Trustees of Michigan State University hereby approves replacement of the Student Information System, including project planning and implementation.

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

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

D. Project Approval – Authorization to Proceed – Wonders Hall – Teaching, Learning, and Student Support Renovations

It was recommended that the Board of Trustees authorize the Administration to proceed with renovations and technology and infrastructure improvements to various areas of Wonders Hall as part of the University's commitment to student success.

BE IT RESOLVED, that the Board of Trustees of Michigan State University hereby authorizes the Administration to proceed with the project entitled "Wonders Hall - Teaching, Learning, and Student Support Renovations," with a project budget of $18,000,000.

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

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

E. Project Approval – Authorization to Proceed
Hannah Administration Building – Fourth Floor Renovations

It was recommended that the Board of Trustees authorize the Administration to proceed with renovations to the fourth floor of the Hannah Administration Building.
BE IT RESOLVED, that the Board of Trustees of Michigan State University hereby authorizes the Administration to proceed with the project entitled "Hannah Administration Building - Fourth Floor Renovations," with a project budget of $2,300,000.

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

THE BOARD VOTED to approve the resolution.

F. Project Approval - Authorization to Proceed - Grand Rapids Research Center Phase II

It was recommended that the Board of Trustees authorize the Administration to enter into a Private Public Partnership (P3) for the continued development of the Grand Rapids Research Center (GRRC) site.

BE IT RESOLVED, the Board of Trustees of Michigan State University hereby authorizes the Administration to proceed with the project entitled "Grand Rapids Research Center Phase II."

BE IT FURTHER RESOLVED, that the Board of Trustees authorizes the Administration to enter into a ground lease, development agreement and all other required documents in connection with the project, upon such 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 Byrum.

THE BOARD VOTED to approve the resolution.

G. Project Approval - Authorization to Proceed - Duffy Daugherty - SAAC - Alterations to Skandalaris Football Offices and the Demmer Family Hall of History

It was recommended that the Board of Trustees authorize the Administration to proceed with upgrades to the Skandalaris Football Center.

BE IT RESOLVED, that the Board of Trustees of Michigan State University hereby authorizes the Administration to proceed with the project entitled "Duffy Daugherty - SAAC - Alterations to Skandalaris..."
Football Offices and the Demmer Family Hall of History," with a project budget of $6,700,000.

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

THE BOARD VOTED to approve the resolution.

10. Academic Affairs Committee

Trustee Byrum presented the Trustee Academic Affairs 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:

Scott Romney for a term of three years, commencing January 1, 2019.

Wallace Jefferson for a term of three years, commencing January 1, 2019.

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

THE BOARD VOTED to approve the resolution.

B. Establishment of Department of Orthopedics

It was recommended that the Board of Trustees establish a new Department of Orthopedics, jointly within the Colleges of Osteopathic and Human Medicine.

BE IT RESOLVED, that the Board of Trustees of Michigan State University hereby establishes the Department of Orthopedics, jointly within the Colleges of Osteopathic and Human Medicine.

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

THE BOARD VOTED to approve the resolution.
11. Committee on Student Life and Culture

Trustee Mosallam presented the Trustee Committee on Student Life and Culture Report

The Committee received an overview of the AARP Age-Friendly Communities and Age-Friendly State Initiatives. Committee members also met with outgoing Police Chief Jim Dunlap, and the newly appointed Police Chief Kelly Roudebusch, and received a public safety update.

12. Trustee Comments

In recognition of Trustee Perles' resignation (Appendix G), Trustee Byrum presented a resolution. (Appendix H)

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

THE BOARD VOTED to approve the resolution.

Trustee Ferguson presented a resolution to honor Trustee Lyons. (Appendix I)

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

THE BOARD VOTED to approve the resolution.

Trustee Foster presented a resolution to honor Trustee Breslin. (Appendix J)

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

THE BOARD VOTED to approve the resolution.

Trustee Kelly thanked Trustee Breslin and Trustee Lyons for their leadership.

Trustee Mosallam thanked Trustee Breslin and Trustee Lyons for their service. He congratulated Chief Dunlap and Greg Ianni on their retirements. Trustee Mosallam stated his opposition to the closing of the Healing Fund.
Trustee Foster thanked Chief Dunlap and Greg Ianni for their service. She also thanked Trustee Perles, Trustee Lyons, and Trustee Breslin for their work on behalf of MSU.

Trustee Byrum thanked Trustee Lyons and Trustee Breslin for their service. She also congratulated all graduates.

Trustee Ferguson thanked Trustee Breslin and Trustee Lyons for their service.

Trustee Lyons thanked Trustee Breslin and Trustee Perles for their service. He congratulated Chief Dunlap and Greg Ianni on their retirements. He stated that it has been an honor to serve MSU.

Trustee Breslin stated it was an honor to serve on the Board and with Trustee Lyons. He congratulated Chief Dunlap and Greg Ianni on their retirements and thanked President Engler for his work on behalf of MSU.

13. Request to Adjourn

On a motion by Trustee Ferguson, supported by Trustee Breslin, THE BOARD VOTED to adjourn at 10:50 a.m.

Respectfully submitted,

Nakia Barr
Secretary of the Board of Trustees
RESOLUTION HONORING JIM DUNLAP
Michigan State University
December 14, 2018

The Michigan State University Board of Trustees today extends to Jim Dunlap its sincere gratitude and appreciation for his nearly 50 years of service to the MSU community as a police officer and, since 2002, as chief of police.

Chief Dunlap earned a Bachelor of Science in biological science and prelaw at MSU. He joined the MSU Police Department in 1969 and graduated from the Michigan State Police Basic Police Academy in 1970. Promoted to sergeant in 1973, lieutenant in 1979 and captain in 1984, he was named deputy chief in charge of the police bureau in 1987. He served as assistant chief from 1999 until his appointment as chief.

Chief Dunlap expanded the department’s commitment to community policing to include all department members and developed a number of innovative units and teams. Those include the Bike Unit, Motor Unit, Inclusion and Anti-Bias Unit, Behavioral Threat Assessment Unit, Digital Forensics and Cyber Crime Unit and Special Victims Unit. Under his leadership, MSU in 2017 became the fifth institution of higher education in the nation, and just the second program in Michigan, to be accredited in emergency management.

Most recently, Chief Dunlap’s department developed a comprehensive program for trauma-informed and victim-centered law enforcement for investigations into relationship violence and sexual assault. A model for other law enforcement agencies, the program will offer training to other departments across the country.

For his visionary leadership, his stalwart professionalism and his long career of service to this university, the Michigan State University Board of Trustees offers its heartfelt thanks and deep gratitude to Jim Dunlap.
Translational Research: One researcher’s experience

Andrea Amalfitano DO, PhD, DABMGG
Osteopathic Heritage Foundation Professor of Pediatrics, Microbiology and Molecular Genetics
Director, MSU-Clinical and Translational Sciences Institute
Interim Dean, MSU College of Osteopathic Medicine
Physician/Scientist:

- Three examples of my Translational Research:
  - 1. Led a first-in-human clinical trial of a novel drug
  - 2. Invented a novel technology now being tested in humans
  - 3. Utilized patient data to guide laboratory research
Example #1: Pompe Disease: A Genetic and Lethal form of Muscular Dystrophy

- **Musculoskeletal**
  - Profound and rapidly progressive muscle weakness

- **Cardiac**
  - Marked cardiomegaly/cardioomyopathy

- **Respiratory**
  - Progression to respiratory insufficiency
Clinical Translation: IV injection of a recombinant form of the enzyme missing in Pompe patients to correct their muscle disease.
FDA/EU approval achieved for “Alglucosidase alfa”

Positive Health Outcome:
Now prescribed for ALL Pompe patients world-wide
Example #2: Re-engineering a virus into a gene transfer medicine:
Purified Adenovirus
26 FDA approved Clinical Trials currently evaluating Amalfitano invented “ETBX” Technology: see ClinicalTrials.gov:

<table>
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<tr>
<th>Title</th>
<th>Status</th>
<th>Study Results</th>
<th>Conditions</th>
<th>Interventions</th>
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| CULT T 3:040: EtxbX 011 (AS6: E1 - E2b-1 CEA(SD) Vaccine in Combination With ALT-803) in Subjects Having CEA Expressing Cancer | Active, not recruiting | No Results Available | - Thyroid Cancer  
- Colon Cancer  
- Ovarian Cancer  
- Breast Cancer  
- Lung Cancer  
- Pancreatic Cancer | Biological: ETBX-011  
Biological: ALT-803 | Medical Oncology Associates, Spokane, Washington, United States |
| CULT T 3:013: Study of Cetuximab Monotherapy in Subjects With Unresectable Locally Advanced or Metastatic Stage II/III/IV Expressing BRAF Positive Melanoma | Recruiting        | No Results Available | - Melanoma                        | Biological: ETBX-021                  | Chao Soon-Shiong Institute for Medicine, El Segundo, California, United States |
| Treatment of Castration Resistant Prostate Cancer Using Multi-Targeted Recombinant Ad5 PSA/MUC1/Bradykinin Based Immunotherapy Vaccine | Recruiting        | No Results Available | - Prostatic Neoplasms  
- Prostatic Cancer | Biological: ETBX-071  
Biological: ETBX-001: adenoviral PSA vaccine  
Biological: ETBX-051: adenoviral MUC1 vaccine  
Biological: ETBX-061: adenoviral bradykinin vaccine | National Institutes of Health Clinical Center, Bethesda, Maryland, United States |
| Multi-Targeted Recombinant Ad5 (CEA/MUC1/Bradykinin) Based Immunotherapy Vaccine Regimen in People With Advanced Cancer | Active, not recruiting | No Results Available | - Neoplasms  
- Prostate Cancer  
- Breast Cancer  
- Colon Cancer | Biological: ETBX-051: adenoviral bradykinin vaccine  
Biological: ETBX-061: adenoviral MUC1 vaccine  
Biological: ETBX-001: adenoviral CEA vaccine | National Institutes of Health Clinical Center, Bethesda, Maryland, United States |
| Active Immunotherapy CEA Vaccine in Patients With Metastases Expressing CEA | Completed         | No Results Available | - Colon Cancer  
- Lung Cancer  
- Breast Cancer | Biological: ADS CEA Vaccine | Duke Cancer Research Institute, Duke University, Durham, North Carolina, United States  
Medical Oncology Associates, PS, Spokane, Washington, United States |
| CULT T 3:089: Squamous Cell Carcinoma (SCC) Vaccine: Subjects With SCC Who Have Progressed | Recruiting        | No Results Available | - Squamous Cell Carcinoma | Biological: ALT-803  
Biological: ETBX-041 | Chao Soon-Shiong Institute for Medicine, El Segundo, California, United States |
Example #3: Moving clinical findings into the research laboratory

- Ankylosing Spondylitis: auto-immune arthritic disease associated with ERAP1 gene alterations.
μCT Analysis of ERAP1 deficient mice:
ERAP1 deficient mice have reduced numbers of “Tr1” type regulatory T cells.

Pepelyayeva et al, (2018), Scientific Reports
QUESTIONS?
**SPONSORED RESEARCH AGREEMENT TERM SHEET**

**Party:** Kopess Ag Tech, LLC  
**Agreement:** Subcontract under National Science Foundation grant (MSU proposal number 00386285): Sponsored Research Agreement Subcontract to be entered into upon award to Kopess "(STTR Phase II) XERICO Drought Tolerance Technology."

**Term:** January 1, 2019 to December 31, 2020

**Payment Terms:** $367,219 in reimbursements under the grant for services provided

**Services Provided:** By MSU to Kopess Ag Tech, LLC: Creation of XERICO transgenic seeds with clean genetic backgrounds and field tests of XERICO corn plants  
By Kopess Ag Tech, LLC to MSU: None contemplated under the agreement

**Use of University Facilities/Personnel:** Laboratory in Plant and Soil Sciences Building on Bogue Street, Tree Research Center ("TRC"), greenhouse at the TRC; collaborators include Maninderpal Singh and Addie Thompson in the Department of Plant, Soil, and Microbial Sciences

**Organization Type:** Michigan limited liability company

**Personnel Interest:** Dr. Kyung-Hwan Han, a Professor in the Department of Horticulture, and Okran Han, an employee in the Department of Horticulture, and members of their families own or have options to buy an ownership interest of more than 1% of the company.
MEMORANDUM

To: Committee on Audit, Risk and Compliance
From: June Pierce Youatt
Executive Vice President and Provost
Subject: Approval of Contract Terms: Kopess Ag Tech, LLC

RECOMMENDATION
The Trustee Committee on Audit, Risk and Compliance recommends that the Board of Trustees approve a contract between Michigan State University and Kopess Ag Tech, LLC, a company in which MSU employees Dr. Kyung-Hwan Han and Okran Han hold a financial interest.

RESOLUTION
BE IT RESOLVED, that the Board of Trustees of Michigan State University hereby approves a sponsored research agreement with Kopess Ag Tech, LLC consistent with earlier public notice given at a Board meeting and with a "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 Kopess Ag Tech, LLC, a Michigan limited liability company was given at the Board of Trustees meeting on April 15, 2016. The terms of a sponsored research agreement are presented for Board approval.

Dr. Kyung-Hwan Han, a Professor in the Department of Horticulture, and Okran Han, an employee in the Department of Horticulture, and members of their families 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 Kopess Ag Tech, LLC.

cc: Board of Trustees, J. Engler, S. Udpa, N. Barr, M. Zeig, S. Hsu, B. Mattes, R. Young, B. Quinn, C. Berg
SPONSORED RESEARCH AGREEMENT TERM SHEET

Party: IASO Therapeutics, Inc.
Agreement: Subcontract under National Science Foundation grant (MSU proposal number 00387901): Sponsored Research Agreement Subcontract to be entered into upon award to IASO Therapeutics, Inc. "(SBIR Phase I) Development of Bacteriophage Qbeta and Mutants as Carriers for Next Generation Vaccines"

Term: January 1, 2019 to December 31, 2020
Payment Terms: $64,762 in reimbursements under the grant for services provided

Services Provided:
- By MSU to IASO Therapeutics, Inc.: Creation of post-immune sera after immunization with the mQb-GD2 construct to be provided by IASO
- By IASO Therapeutics, Inc. to MSU: None contemplated under the agreement

Use of University Facilities/Personnel: Laboratory in the MSU Chemistry Building under the supervision of Dr. Masako Harada

Organization Type: Michigan corporation

Personnel Interest: Dr. Xuefei Huang, Professor in the Department of Chemistry, and Dr. Zhu Li, a visiting scholar 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.
MEMORANDUM

To: Committee on Audit, Risk and Compliance
From: June Pierce Youatt, Executive Vice President and Provost
Subject: Approval of Contract Terms: IASO Therapeutics, Inc.

RECOMMENDATION
The Trustee Committee on Audit, Risk and Compliance recommends that the Board of Trustees approve a contract between Michigan State University and IASO Therapeutics, Inc., a company in which MSU employees Dr. Xuefei Huang and Dr. Zhu Li hold a financial interest.

RESOLUTION
BE IT RESOLVED, that the Board of Trustees of Michigan State University hereby approves a sponsored research agreement with IASO Therapeutics, Inc., consistent with earlier public notice given at a Board meeting and with a "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 IASO Therapeutics, Inc., a Michigan corporation, was given at the Board of Trustees meeting on February 16, 2018. The terms of a sponsored research agreement are presented for Board approval.

Dr. Xuefei Huang, Professor in the Department of Chemistry, and Dr. Zhu Li, a visiting scholar 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.

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

cc: Board of Trustees, J. Engler, S. Udpa, N. Barr, M. Zeig, S. Hsu, B. Mattes, R. Young, B. Quinn, C. Berg
### SPONSORED RESEARCH AGREEMENT TERM SHEET

<table>
<thead>
<tr>
<th>Party:</th>
<th>Tarn BioSciences, Inc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agreement:</td>
<td>Subcontract under National Institutes of Health (MSU proposal number 00385252): Sponsored Research Agreement Subcontract to be entered into upon award to Tarn BioSciences, Inc. &quot;(STTR) Repurposing Ethoxzolamide as a new tuberculosis therapeutic&quot;</td>
</tr>
<tr>
<td>Term:</td>
<td>July 1, 2019 to June 30, 2020</td>
</tr>
<tr>
<td>Payment Terms:</td>
<td>$165,664.18 in reimbursements under the grant for services provided</td>
</tr>
<tr>
<td>Services Provided:</td>
<td>By MSU to Tarn BioSciences, Inc.: Examination of the impact of ethoxzolamide on <em>M. tuberculosis</em> virulence during infection of macrophages and mice By Tarn BioSciences, Inc. to MSU: None contemplated under the agreement</td>
</tr>
<tr>
<td>Use of University Facilities/Personnel:</td>
<td>MSU's Veterinary Diagnostic Laboratory BL3 A&amp;B</td>
</tr>
<tr>
<td>Organization Type:</td>
<td>Michigan Corporation</td>
</tr>
<tr>
<td>Personnel Interest:</td>
<td>Dr. Robert Abramovitch, Assistant Professor in the Department of Microbiology and molecular Genetics and Chemistry, and members of his family own or have options to buy an ownership interest of more than 1% of the company.</td>
</tr>
</tbody>
</table>
MEMORANDUM

To: Committee on Audit, Risk and Compliance

From: June Pierce Youatt

Subject: Approval of Contract Terms: Tarn BioSciences, Inc.

RECOMMENDATION
The Trustee Committee on Audit, Risk and Compliance recommends that the Board of Trustees approve a contract between Michigan State University and Tarn BioSciences, Inc., a company in which MSU employee Dr. Robert Abramovitch holds a financial interest.

RESOLUTION
BE IT RESOLVED, that the Board of Trustees of Michigan State University hereby approves a sponsored research agreement with Tarn BioSciences, Inc., consistent with earlier public notice given at a Board meeting and with a "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 Tarn BioSciences, Inc., a Michigan corporation, was given at the Board of Trustees meeting on June 22, 2018. The terms of a sponsored research agreement are presented for Board approval.

Dr. Robert Abramovitch, Assistant Professor in the Department of Microbiology and molecular Genetics and Chemistry, and members of 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 Tarn BioSciences, Inc.

cc: Board of Trustees, J. Engler, S. Udpa, N. Barr, M. Zeig, S. Hsu, B. Mattes, R. Young, B. Quinn, C. Berg
INVESTMENT POLICY

01-07-01

I. General Statement

As stated in the Constitution of the State of Michigan and in the Bylaws of the Board of Trustees of Michigan State University (Board), the Board is responsible for the "control and direction of all expenditures from the institution's funds." In carrying out this responsibility with respect to the University's investments, the Board has established a framework for active, professional investment management. This policy states the responsibilities of the parties involved in carrying out the investment program.

The Board will establish an investment program for the investment of University funds for maximum return with an acceptable degree of risk. Within the context of its fiduciary responsibilities, the Board will exhibit social conscience in the administration of the University's investments.

All institutional funds available for long-term investment (generally at least five years), with the exception of funds limited by law or by special donor restrictions, will be consolidated into the Board's Common Investment Fund (CIF). (See Exhibit A for the CIF Statement of Investment Objectives.) All institutional cash except as otherwise required by contract or by another legal constraint, will be consolidated into the Board's Pooled Cash Fund for investment purposes. The Pooled Cash Fund shall consist of i) the Liquidity Pool (short and intermediate-term commercially available funds) and ii) the Liquidity Reserve Pool. (See Exhibit B for the Pooled Cash Fund Statement of Investment Objectives.) The CIF, Liquidity Pool, and Liquidity Reserve Pool may be referred to in this Policy as the University's investment portfolios.

II. Nature of Assets

Three distinct types of assets are covered by this policy:

1. Institutional Funds - Assets owned and held for long-term investment by the University, such as employee retirement funds and endowment funds, which include endowment trusts and funds functioning as endowments.

2. Annuity and Life Income Funds - Assets held for permanent investment by the University as trustee for the benefit of named beneficiaries, to revert to the University upon the demise of the last beneficiary or after a specified period of time, which should be invested to produce annual returns at least equal to contractually required payments to beneficiaries.

3. Institutional Cash – Cash being pooled and invested pending its intended use.

III. Role of Board of Trustees

The Board:
expanded to bring additional perspectives from those with institutional investment experience to advise the office and Board of Trustees.

The language of the policy should also be clarified to better reflect what has become practice and to better articulate the roles and responsibilities of the Board and the Administration.

The Investment Advisory Subcommittee, Chief Investment Officer and Vice President for Finance and Treasurer concur with these proposed revisions.

1. Shall, upon the recommendation of the Finance Committee on Budget and Finance and the President, approve (a) investment policies relating to the administration of the Pooled Cash Fund's investment portfolios, including, but not limited to, investment objectives, which will include, but not be limited to, performance goals, strategic asset allocation, and risk budgets, (b) endowment spending rates, and (c) institutional liquidity targets;

2. Shall, upon the recommendation of the Investment Advisory Subcommittee, and in consultation with the Chief Investment Officer (CIO), approve investment policies relating to the administration of the CIF, including, but not limited to, investment objectives, which will include, but not be limited to, performance goals, strategic asset allocation, and risk budgets.

2.3. Shall approve the appointment of the Chief Investment Officer (CIO); and

3.4. Shall receive periodic reports on investment results through the Finance Committee on Budget and Finance and Investment Advisory Subcommittee, and the CIO—and, through the Investment Advisory Subcommittee and President, on the performance of the CIO.

IV. Role of Finance Committee on Budget and Finance

The Finance Committee on Budget and Finance:

1. Shall, in consultation with the Investment Advisory Subcommittee-Vice President for Finance and Treasurer (VPFT) and the President, make recommendations to the Board about policies relating to the administration of the University's investment portfolios Pooled Cash Fund; and

Shall, in consultation with the Investment Advisory Subcommittee, consult with the President regarding the annual performance review of the CIO; and

2. Shall receive periodic reports on the investment status of the portfolios Pooled Cash Fund from the CIO/VPFT and shall transmit relevant information from such reports to the Board.

V. Role of the Investment Advisory Subcommittee

The Investment Advisory Subcommittee:

1. Shall, in consultation with the CIO, President and VPFT, make recommendations to the Committee on Budget and Finance and the Board about policies relating to the administration of the CIF;

4.2. Shall advise the CIO in the review and evaluation of investment opportunities and strategies;
2.3. Shall provide knowledgeable, objective, and independent advice to the members of the Finance Committee, on Budget and Finance, the Board, and the CIO on investment policies and objectives, strategic investment planning and policy, investment opportunities, and such other matters as shall be determined by the Board;

Shall review policies recommended by the President relating to the administration of the University's investment portfolio and, when appropriate, shall advise the Finance Committee, on Budget and Finance about such policies;

3.4. Shall, in consultation with the CIO, annually review the performance and investment objectives of the portfolios of Institutional Funds Investments CIF;

4.5. Shall, in consultation with the Vice President for Finance and Treasurer (VPFT), receive periodic reports on the investment status of the Pooled Cash Fund and annually review the performance and investment objectives of the Pooled Cash Fund;

5.6. Shall advise the CIO concerning the investment consultants and investment managers for the Institutional Funds CIF and advise the VPFT concerning the investment consultants and investment managers for the Pooled Cash Fund;

6.7. Shall usually meet with the CIO on a regular basis quarterly, but in no case less frequently than three times a year, to receive reports on the performance of the CIF Institutional Funds, the investment consultants, and investment managers; and

7.8. Shall consult and advise the President regarding the appointment and performance evaluation of a CIO.

VI. Role of the President

The President:

1. Shall recommend to the Finance Committee, on Budget and Finance, upon the recommendation of the CIO, investment policies relating to the administration of the CIF;

2. Shall recommend to the Finance Committee, on Budget and Finance, upon the recommendation of the VPFT, investment policies relating to the administration of the Pooled Cash Fund;

Shall recommend to the Finance Committee, on Budget and Finance, upon recommendation of the CIO, an appropriate strategy to meet the Board's long-term investment objectives, which will include, but
3.2. Shall recommend a CIO for appointment by the Board of Trustees and shall appoint an interim CIO when the position is vacant;

4.3. Shall assume supervisory responsibility for the CIO position, including, but not limited to:

   a. developing, in consultation with advice from with the Investment Advisory Subcommittee, and in consultation with Investment Consultant, CIO performance standards, evaluation and compensation for the CIO;

   and

conducting, with advice from the Finance Committee, Committee on Budget and Finance and Investment Advisory Subcommittee and in consultation with Investment Consultant, the CIO’s performance evaluation.

5.4. Shall provide broad administrative oversight of the University’s investment activities, including, but not limited to:

   a. General oversight of the CIO’s selection of Investment Consultants;

   b. General oversight of the CIO’s tactical asset allocation, rebalancing, and hedging within ranges and risk budgets established by the Board;

   c. General oversight of the CIO’s implementation of traditional asset class, investment strategies, including investment manager selection;

   d. General oversight and monitoring of the CIO’s implementation of private equity and long-term illiquid asset class strategies, including investment manager selection (which selection shall require the approval of the VPFT);

   e. General oversight and monitoring of CIO performance measurement and evaluation;

   f. General oversight of the Pooled Cash Fund performance measurement and evaluation;

   g. General oversight of the Pooled Cash Fund investment manager selection; and

   h. General oversight of Investment Custodian selection.

VII. Role of the Chief Investment Officer

The Chief Investment Officer:

   2. Shall develop and recommend to the President, through consultation with
the Investment Advisory Subcommittee, investment policies relating to the administration of the CIF Institutional Funds;

3.1. Shall develop and recommend to the President, through consultation with the Investment Advisory Subcommittee, an appropriate strategy to meet the Board’s long-term investment objectives, which will include, but not be limited to, liquidity available for investments, performance goals, strategic asset allocation, and risk budgets, for the CIF Institutional Funds;

4.2. Shall, after considering advice from the Investment Advisory Subcommittee, President, and VPFT, be responsible for the selection, retention, and termination of any Investment Consultant(s) for the CIF;

5. Shall be responsible for tactical asset allocation, portfolio rebalancing, and hedging within ranges and risk budgets established by the Board;

6.3. Shall manage the day-to-day activities of the University’s CIF investment portfolios within the broad guidelines established by the policies adopted by the Board;

7.4. Shall monitor capital markets and economic forecasts, and provide the Board—and President with an ongoing analysis of the global economic situation as it relates to the University’s investment policies and objectives;

8.5. Shall seek the advice of the Investment Consultant(s), Investment Advisory Subcommittee, and—President, and appropriate Investment Consultant(s), on issues related to the management of the CIF investment portfolios;

6. Within ranges and risk budgets established within Exhibit A of the Investment Policy, shall appoint new investment managers, terminate investments, reallocate assets, make follow-on investments with existing managers, and have authority to allocate funds through use of a joint investment vehicle entity, such as a limited liability entity, and authority to take all actions and execute all documents in connection with the formation, management, operation, and dissolution of any such joint investment vehicle entity; with respect to traditional liquid asset classes;

9.7. For investments with material illiquid commitments or gated redemptions longer than 3-years, shall obtain the consent approval of the VPFT as regards the investment remaining within liquidity constraints specified in Exhibit A.

a. Shall appoint new investment managers, make follow-on investments with existing managers, and have authority to allocate funds through use of a joint investment vehicle entity, such as a limited liability entity, and authority to take all actions and execute all documents in connection with the formation, management, operation, and dissolution of any such joint investment vehicle entity;
b. Shall approve the dollar value of assets allocated to new and existing investment managers and reallocate assets among such managers in accordance with long-term strategic targets;

c. Shall approve individual investment manager guidelines; and

d. Shall monitor individual investment managers on a regular basis to ensure that performance expectations are met.

10. With respect to private equity and long-term illiquid assets:

a. Shall consult with the VPFT on strategy implementation;

b. Shall, with the approval of the VPFT, appoint new investment managers, make follow-on investments with existing managers, and have authority to allocate funds through use of a joint investment vehicle entity, such as a limited liability entity, and authority to take all actions and execute all documents in connection with the formation, management, operation, and dissolution of any such joint investment vehicle entity;

c. Shall, with approval of the VPFT, approve the dollar value of assets allocated to new and existing investment managers and reallocate assets among such managers in accordance with long-term strategic targets;

d. Shall, in consultation with the VPFT, approve individual investment manager guidelines; and

e. Shall monitor individual investment managers on a regular basis to ensure that performance expectations are met.

11. Shall consult with the IAS and have the discretion and authority to terminate CIF investment managers for reasons including, but not limited to, performance concerns, organizational changes, deviation from investment mandate, investment mandate is inconsistent with the current market environment, or restructuring of the relevant investment portfolio;

12. Shall provide a monitoring and measurement program that will permit evaluation of the performance of the CIF portfolio, asset classes within the portfolio, and investment managers in comparison with applicable investment market benchmarks and with other managers;
43.9. Shall report to the Investment Advisory Subcommittee, President, and VPFT on a periodic basis, but not less than quarterly, rebalancing transactions and all new financial commitments to private investments completed during the quarter, and shall provide quarterly reports to the President and Investment Advisory Subcommittee showing potential rebalancing transactions that are likely to occur over the ensuing quarter;

44.10. Shall report monthly to the Investment Advisory Subcommittee, the President, and VPFT any market value decline of 10 percent or greater in the value of the CIF;

45.11. Shall report quarterly to the Investment Advisory Subcommittee, the President, and VPFT any market value decline with respect to an investment manager that is in excess of two standard deviations of the long-term volatility of the applicable benchmark listed in Exhibit A;

46. Shall continuously monitor and review each investment consultant’s reports, the actions of the investment managers, and the status of the CIF University’s investment portfolios; and

47.12. Shall maintain communications, as appropriate, among the Board, the Investment Advisory Subcommittee, the Investment Consultant(s), and the investment managers.

VIII. Role of the Vice President for Finance and Treasurer

The Vice President for Finance and Treasurer:

1. Shall advise the President and CIO on investment policies relating to the CIF and Pooled Cash Fund;

2. Shall develop and recommend to the President, through consultation with the Investment Advisory Subcommittee, investment policies relating to the administration of the Board’s Pooled Cash Fund;

3. Shall consult with the CIO with respect to private equity and long-term illiquid strategy and asset commitments and shall approve, in conjunction with the CIO, new private equity and long-term illiquid investment managers and make follow-on investments with existing managers;

4. Shall have the authority to appoint the investment custodians for the CIF and Pooled Cash Fund;

5. Shall have the authority to appoint, or may act in the role of, an investment manager for the Pooled Cash Fund and shall report any such appointments to the Investment Advisory Subcommittee, and the Board;
6. Shall consult with the Committee on Budget and FinanceIAS and have the discretion and authority to terminate Pooled Cash Fund investment managers for reasons including, but not limited to, performance concerns, organizational changes, deviation from investment mandate, investment mandate is inconsistent with the current market environment, or restructuring of the relevant investment portfolio;

7. Shall provide a monitoring and measurement program that will permit evaluation of the performance of the Liquidity Reserve Pool and investment managers in comparison with applicable investment market benchmarks and with other managers; and

8. Shall provide a monitoring and measurement program that will permit evaluation of the performance of the Liquidity Pool and investment managers in comparison with applicable investment market benchmarks and with other managers.

IX. Role of Investment Consultants

An Investment Consultant:

1. Shall provide advice and consultation to the CIO in the areas of policy development, asset allocation, investment structure and analysis, investment manager selection, risk parameters, and investment performance review with respect to the CIF;

2. Shall provide advice and consultation to the VPFT in the areas of policy development, asset allocation, investment structure and analysis, investment manager selection, investment custodian selection, risk parameters, and investment performance review with respect to the Pooled Cash Fund, and regarding endowment spending rates;

3. Shall provide, as requested by the President, advice and consultation in developing CIO performance standards and evaluations; and

4. Shall provide such other information pertaining to the Board’s investment program as may reasonably be required and shall report immediately to the CIO any major change in its confidence regarding the investments, investment managers, sector, or securities markets for which it is providing advice to the University.

X. Role of the Investment Managers

Each investment manager:

1. Shall report at least quarterly to the CIO and/or VPFT, as applicable, on its performance and other appropriate matters;
2. Is authorized to execute investment transactions within its established guidelines, subject to any restrictions established by the Board and/or CIO and/or VPFT as applicable;

3. Shall provide other necessary information for the development of interim reports and shall meet, as necessary, with the CIO and/or VPFT, as applicable; and

4. Shall vote all proxies in a manner most likely to preserve or enhance the value of the underlying investments and normally to support management on routine matters.

XI. Role of the Investment Custodians

Each investment custodian:

1. Shall hold all securities in an agreed-upon nominee name and form;

2. Shall execute all transactions as directed by the relevant investment manager;

3. Shall collect all income pertaining to the securities held, and shall temporarily invest such income in cash equivalents;

4. Shall periodically remit accumulated income to the University, for credit to the appropriate funds or trusts, pursuant to instructions received from the VPFT;

5. Shall provide the University with a full monthly accounting of all transactions, together with a listing of all holdings at cost and market; and

6. Shall provide such other information as may reasonably be required.

XII. Endowment Spending

1. In fulfillment of its fiduciary duties as trustee of the University's endowment and other Institutional Funds, the Board causes those Funds to be invested to generate amounts that may be expended for the purposes for which those Funds were established ("programmatic spending") and amounts that may be accumulated for reinvestment to preserve the value of those Funds, and their purchasing power, against inflation. These are the priorities for the use of the University's endowment and other Institutional Funds. The Board may also permit reasonable and appropriate costs to be charged to the endowment and other Institutional Funds. These charges may include reasonable and appropriate costs of administering and managing the Institutional Funds, such as reasonable and appropriate internal and external investment costs and, for certain Institutional Funds, fund-raising costs. Additional returns, if any, generated by the investment of the Institutional Funds may be used to add real principal growth to such Funds, to better preserve their long-term
value, to improve and further diversify the investment options for such Funds, and, thus, to enhance opportunities to stabilize and increase annual expenditure for such Funds.

2. In accordance with these precepts:

a. (i) The University will make available for programmatic spending 4.4 percent of the average market value of the CIF as calculated for the period comprising 20 quarters of the five fiscal years ending one year prior to the beginning of the fiscal year in which the spending is expected to occur, expressed as a dollar per unit annual distribution amount based on the number of units in the CIF at the time of the calculation. Programmatic spending distributions will be made to CIF unit holders on a periodic basis during the fiscal year based on the number of units in the CIF held when each periodic programmatic spending distribution is made. The VPFT will determine when the periodic programmatic spending distributions will occur.

(ii) This programmatic spending rate shall be approved annually by the Board, upon the recommendation of the Finance Committee, in consultation with the Investment Advisory Subcommittee and President. The VPFT shall develop, in consultation with the CIO and Investment Consultant(s), and recommend to the President the programmatic spending rate. In connection with each of these recommendations, the University’s financial staff shall present an analysis of the projected impact of inflation on the University’s endowment and other Institutional Funds, including how inflation is expected to affect their purchasing power (i.e., the expenditures of amounts for the purposes for which those funds were established).

b. Reasonable and appropriate internal and external investment costs for the CIF, including the costs of the investment consultant, the investment managers, and the investment custodians and the University’s own investment management costs (staff and support), shall be deducted in determining the average market value of the CIF available for programmatic spending pursuant to Section XII (2)(a)(i) of this policy.

c. The President, in consultation with the CIO and the VPFT, is authorized to establish annual assessments for endowment stewardship, including fund raising, against those of the University’s endowment and other Institutional Funds established entirely or primarily with private donations. The amount of the assessments must be reasonable and appropriate, particularly when considered in the context of the University’s priorities for the use of its endowment and other Institutional Funds. In any event, the amount assessed may not, without further Board action, exceed 1 percent of the average market value of the CIF units held by such Funds. The calculation of the amount assessed and its allocation to the Funds subject
The per unit annual distribution amount will be allocated evenly over the periodic programmatic spending distributions during the fiscal year. The amount of the periodic programmatic spending distributions will not be reduced if the number of units in the CIF increases between when the per unit annual distribution amount is calculated and when the periodic programmatic spending distributions occur.
to assessment shall be conceptually consistent with the methodology by which programmatic spending distributions are calculated and allocated under Section XII (2)(a)(i) of this policy. Assessments will be made periodically during the fiscal year, as jointly determined by the CIO and VPFT. Not less than 30 days prior to the annual review of the programmatic spending rate pursuant to Section XII (2)(a)(ii) of this policy, the President and the VPFT shall provide a written report to the Finance Committee on Budget and Finance and other members of the Board stating the amount, if any, of the assessment for the following fiscal year and how it was determined.

3. If the University has accepted a gift to an endowment fund documented by a gift instrument in which the donor gives legally binding instructions for the investment of, or expenditures from, that fund which are inconsistent with the foregoing, the University will comply with those special instructions. The VPFT shall calculate the annual programmatic spending distribution and assessment for each endowment fund which is not invested in the CIF in accordance with applicable law and report the programmatic spending rate and assessment amount for each such fund to the Finance Committee on Budget and Finance. Insofar as possible, given each such fund's investments and the instructions of its donor, the priorities for the use of such funds should be the same as those for endowment funds invested in the CIF.

Enacted: 1/26/79
Amended: 4/15/83, 6/8/84, 2/6/87, 10/14/88, 12/6/91, 4/10/98, 9/22/00, 6/5/03, 5/7/04, 11/12/04, 5/18/07, 12/05/08, 4/24/09, 4/16/10, 9/17/10, 12/10/10, 10/21/11, 12/14/12, 1/25/13, 4/12/13, 6/21/13, 9/11/15; 12/18/15, 4/15/16, 10/26/16, 10/27/17, 12/14/18
Committee on Budget and Finance

The committee responsibilities include oversight of the operating and capital budgets of the university, review of policies which have significant financial impact, review of contracts for construction, assurance of debt, management of real estate owned or gifted to the university and any such other matters which the Board finds may have financial or budget implications.

The committee shall review university investment policies, the annual financial statements and other financial data such as credit agency ratings.

The committee shall also have the role and responsibilities assigned to it under the Board’s Investment Policy 01-07-01, review the work of the Chief Investment Officer and support the operations of the Investment Advisory Subcommittee, which is established under these bylaws and operates pursuant to the Policy Stipulations and Supporting Documents of the MSU Board of Trustees.

The committee shall also assist the Board in determining compensation for the President and advise the President regarding appropriate compensation for senior executives. The committee shall coordinate the annual evaluation of the President. The President or the Executive Vice President for Administrative Services may consult with the committee on any matters concerning the administration of the university, including such areas as information technology services, human resources and purchasing and procurement.

The committee will oversee compliance with the Investment Policy.

Investment Advisory Subcommittee

The Investment Advisory Subcommittee is a subcommittee of the Committee on Budget and Finance Committee. Membership of the committee will be determined as set forth in the Stipulations for Membership of the Investment Advisory Subcommittee contained in the Stipulations and Supporting Documents section of the Board’s Policy Manual. The role and responsibilities of the Investment Advisory Subcommittee are set forth in the Board’s Investment Policy 01-07-01. Its role is to aid the Finance Committee in the review and evaluation of investment opportunities and strategies.

The responsibilities of the investment advisory subcommittee include providing knowledgeable, objective and independent advice to the members of the Finance Committee and MSU financial staff on strategic investment planning and policy, investment opportunities, and such other matters as shall be determined by the Board and outlined in the Stipulations and Supporting Documents section.

Committee on Audit, Risk and Compliance

The committee responsibilities include reviewing the financial reporting processes and audits of financial reporting processes and audits of financial statements, the internal audit program and the review and selection of the independent auditors.

The committee shall provide oversight for university risk management in order to drive accountability across the entire community. The committee may identify threats and risks that need to be subjected to greater scrutiny by appropriate university leaders. The committee will also review reports from the Chief Compliance Officer (COO) and senior leadership regarding priorities, operation and effectiveness of the university’s compliance efforts. The chief compliance officer will
report on the effectiveness and compliance by the university representatives and employees with both the Code of Conduct and Code of Ethics.

The committee will review any violations and failures to comply with federal, state, and local laws, rules and regulations, as well as institutional policies.

The committee will oversee compliance with the Board of Trustees Conflict of Interest policy.

**Committee on Academic Affairs**

The responsibilities of the committee are to assist in attaining the goal stated in the university bylaws that requires the "...University to offer undergraduate and graduate education of the highest possible quality..." and "to encourage moving our research and experimentation" and to "diffuse...the knowledge and information." Unless designated to another committee, the committee shall have responsibility for the Board of Trustees bylaws, Board of Trustees policy manual, Board-approved documents such as Bylaws for Academic Governance, the Ordinances and any proposed changes to Board-approved policies and such other matters as shall be determined by the Board. In the event that policy changes are proposed by other standing committees of the board, the Committee on Academic Affairs shall review such proposals for consistency and compatibility with existing policies.

The committee will review recommendations for hiring, promotion and tenure where appropriate as in the case of the Provost or College Deans and recommend such appointments for Board approval.

The committee will attend to issues related to institutional and programmatic accreditation. They may review the policies and operations of critical academic units like FRIB, Outreach and Engagement, International Studies, Admissions, Office of Inclusion and Intercultural Initiatives, Honors College, Libraries and Research and Graduate Studies.

The committee will also oversee university policy with regard to tech transfer, intellectual property, copyright and commercialization.

The committee shall serve as Board of Trustee liaison to the Faculty Steering Committee and other bodies and as the Faculty Senate and University Council and be the Board of Trustee's lead on the public service role of the university as it relates to off-campus services and education.

**Committee on Student Life and Culture**

The committee responsibilities include oversight of all of the out-of-classroom activities and what is often called the "student experience," and student health and wellness.

The committee will work with Residential and Hospitality Services and with Student Affairs and Services to assure that life in a residence hall, in a Greek house or in off-campus housing and the services that a student needs on campus, are consistent with the expectations of our world-class university. Included in the responsibility is health: physical, emotional, and mental of our community of learners; safety: on campus of off campus. The committee is concerned with all General Student Rights and Responsibilities (SRR) including those for graduate and medical students (GSRR and MSRR). The committee reviews policies and issues related to student conduct and the Office of Institutional Equity. They are liaison to ASMSU, COGS and RHS.
The committee will also be the liaison to the Department of Athletics for our student athletes, as well as the intramural programs that reach thousands of students. The Ombudsperson and Dean of Students will report regularly to this committee so there is Board awareness of student concerns and issues. The committee also addresses issues around the relationship of the University to surrounding communities.

Enacted: 7/25/86
Amended: 10/20/06, 6/22/18, 12/14/18
STIPULATIONS FOR THE SELECTION AND PARTICIPATION OF OUTSIDE MEMBERSHIP OF THE INVESTMENT ADVISORY SUBCOMMITTEE: Policy 01-01-09

The Investment Advisory Subcommittee is a subcommittee of the Finance Committee on Budget and Finance. Its role and responsibilities are set forth in the Board's Investment Policy is to aid the Finance Committee in the review and evaluation of investment opportunities and strategies.

The Investment Advisory Subcommittee includes select individuals who are not members of the Board of Trustees. The following stipulations apply to the participation of those outside members membership of the committee.

1. The committee will have four (4) current Trustees as members.

2. The Investment Advisory Subcommittee will have five (5) three outside members individuals from outside the MSU community as members.

3. The President, the Chief Investment Officer and the Vice President for Finance and Treasurer will be ex officio members of the committee without voting rights.

4. The MSU Foundation will nominate at least two individuals to fill vacancies for outside members of the Investment Advisory Subcommittee. The Committee on Budget and Finance Board of Trustees, in consultation with the President, the Executive Vice President for Administration and Services (or their designee), the Chief Investment Officer and the Vice President for Finance and Treasurer Operations, will select the new outside members of the committee to fill vacancies from those nominees.

5. Outside members will serve staggered three-five-year terms and may be re-appointed once.

6. Key qualifications for outside members include shall possess high ethical standards, have wide-ranging institutional investment experience, ability to constructively debate issues, and skill at asking pertinent questions to independently challenge investment opportunities, and established and beneficial affiliation with MSU.

7. Outside members will be required to comply with Board-approved conflict of interest standards for external members.

8. Outside members of the committee are expected to regularly attend Investment Advisory Subcommittee meetings in person or, when necessary, electronically.

Enacted 10/21/11
Amended 12/14/18
November 28, 2018

The Honorable Brian Breslin  
Chairperson  
Board of Trustees  
Michigan State University

Dear Trustee Breslin:

After careful and considerable thought, I have decided to tender my resignation as a member of the Board of Trustees for Michigan State University. This resignation is effective immediately.

This decision was not easy nor was it made without consulting my family and medical advisers.

Michigan State University has been a home to me and my family for nearly 65 years. I arrived on campus shortly after completing my U.S. Army service. I met and married my wife, Sally, while at MSU and we lived in married housing with our first two children. I continued to be an ardent MSU supporter and proud Michigander even as I began my professional career and resided outside of the state.

Sally and I were delighted to return to our dream job when I was asked to lead the football team and serve a short term as athletic director. After attending the university and serving as an employee, the next step was to serve as a member of the Board of Trustees. As a trustee, my goal was to help navigate the challenges of maintaining and growing an institution that, in my mind, is the finest university in the country.
It has been no secret that I have been living with a number of health challenges. Despite the limitations, I continued to support the university and remained focused on fulfilling my commitments as a Trustee.

As this year comes to a close, so begins a time of reflection. At age 84, my mobility is compromised and I live with the effects of Parkinson’s every day. The ramifications of my health issues continue to grow. I have been blessed with a wife who has sacrificed much to tend to my needs and to provide constant care.

At this juncture, I feel that Sally deserves some respite. We need to make our life smaller as we age and consider our quality of life. Our family has bled green and white for the better part of our lives. It’s time to step back and allow the next generation to carry the MSU torch.

Therefore, with a heavy heart, I have decided to resign as a member of the MSU Board of Trustees effective immediately.

I have been blessed to have a wonderful family, a wealth of experiences and a fulfilling career. MSU provided the foundation for much of my success. I most sincerely thank the voters of this state for twice electing me to the position of Board of Trustee. I have always respected the trust they placed in me and only hope that my contributions have helped to illustrate my most sincere gratitude.

Go Green-

Sincerely,

George Perles
RESOLUTION HONORING GEORGE PERLES
Michigan State University
December 14, 2018

The Michigan State University Board of Trustees today extends to George Perles its sincere gratitude and enduring appreciation for his service to this university, its students and student-athletes, employees and stakeholders.

Trustee Perles first was elected to the board in 2006 and again in 2014 while leading the Audit Committee, conscientiously ensuring the integrity of the audit and MSU’s internal financial controls.

After serving in the U.S. Army, Trustee Perles came to MSU to earn a bachelor’s degree, and then earned a master’s degree in educational administration. Trustee Perles played football under the legendary MSU football coach Duffy Daugherty and later joined the staff to coach defense. Following a highly successful career with the coaching staff of the National Football League’s Pittsburgh Steelers, he was named Spartan head football coach in 1982. He held that post for 12 seasons, adding two Big Ten titles and a Rose Bowl victory to his four NFL Super Bowl wins. From 1990–92, Trustee Perles also served as director of athletics at MSU.

Since his years as a student-athlete, coach and athletic director, Trustee Perles has worked tirelessly to encourage Spartans to reach their greatest potential and continued to contribute at a difficult point in the university’s history in spite of his own health concerns. His generosity to his alma mater prompted the board in 2007 to name the plaza adjacent to the Duffy Daugherty Football Building for George and Sally Perles. Cited often for his leadership in public service activities, he is especially associated with the Special Olympics, having sponsored the Perles-Kelley-Secchia Special Olympics Golf Classic for more than 30 years.

For his unwavering devotion to Michigan State, his commitment to the Spartan community and his many contributions to the excellence of the university over a storied career, the Michigan State University Board of Trustees offers its admiration and sincere gratitude to George Perles.

Brian Breslin, Chairman
Dianne Byrum, Trustee
Dan Kelly, Trustee
Brian Mosallam, Trustee

Joel I. Ferguson, Vice Chairman
Melanie Foster, Trustee
Mitch Lyons, Trustee
RESOLUTION HONORING MITCHELL LYONS
Michigan State University
December 14, 2018

The Michigan State University Board of Trustees today extends to Mitch Lyons its deep gratitude and appreciation for his service to this university, its students, faculty, staff and stakeholders.

Trustee Lyons joined the board in 2011 and was elected vice chairperson in 2015. He currently chairs its Committee on Audit, Risk and Compliance and serves on its Committee on Academic Affairs.

As audit committee chairperson for several years, Trustee Lyons led a thoughtful and thorough audit process. He has been a strong and independent voice on audit and other issues, a creative problem-solver, and has always been willing to speak his mind in the interest of the university. In a challenging period in the life of MSU, he is eager to hear community voices and to understand the student perspective.

Trustee Lyons played football for MSU from 1988 to 1992 under coach George Perles, whom he would later join on the MSU Board of Trustees. Upon graduation in 1992 with a degree in general business administration, Trustee Lyons spent seven years in the National Football League playing for Atlanta and then Pittsburgh. He then began his financial services career and today guides clients in retirement planning and investment management as the owner of Global Wealth Solutions LLC.

In addition to his work for MSU, Trustee Lyons has been a leader in his home community of Rockford, serving on civic boards and coaching youth sports.

For his devotion to his alma mater, his commitment to serving the university and his many contributions as a member of this board, the Michigan State University Board of Trustees offers its appreciation and sincere gratitude to Mitch Lyons.

Brian Breslin, Chairman

Joel I. Ferguson, Vice Chairman

Diane Byrum, Trustee

Melanie Foster, Trustee

Dan Kelly, Trustee

Brian Mosallam, Trustee
RESOLUTION HONORING BRIAN BRESLIN
Michigan State University
December 14, 2018

The Michigan State University Board of Trustees today extends to Brian Breslin its deep gratitude and appreciation for his service to this university, its students, faculty, staff and stakeholders.

Trustee Breslin joined the board in 2011 and was elected vice chairperson in 2013 and board chairperson in 2017. He also currently serves on the Budget and Finance and Student Life and Culture committees.

Trustee Breslin helped lead the board’s work to promote the accessibility and affordability of an MSU education, enhance the value of an MSU degree and continue improvements to the MSU campus, research enterprise and academic programs. In a difficult period in the university’s history, he has sought to work with all trustees to ensure MSU’s success.

A passionate advocate for undergraduate students, Trustee Breslin also was eager to talk with others who wanted to share their perspectives, especially students and faculty members. Eschewing public recognition, he has contributed countless hours behind the scenes on behalf of MSU, and also serves as a member of the Forest Akers Trust.

Trustee Breslin earned a Bachelor of Science in food systems economics and management from MSU in 1977 and played on the Spartan men’s basketball team. Attachment to Michigan State also is deeply ingrained in his family. His father served the university for 38 years and became the namesake for the Jack Breslin Student Events Center.

Following a career at Meijer Inc., culminating in his retirement in 2006 as senior vice president of human resources and government relations, Trustee Breslin served the state of Michigan as director of appointments for Gov. Rick Snyder, vetting individuals and experts to serve on more than 200 state boards and commissions until leaving the post in 2017.

For his extraordinary leadership, his passionate commitment to his alma mater and his tireless efforts on behalf of this university, the Michigan State University Board of Trustees offers its heartfelt thanks and sincere gratitude to Brian Breslin.

Joel I. Ferguson, Vice Chairman
Melanie Foster, Trustee
Melanie Foster, Trustee
Mitch Lyons, Trustee
Dianne Byrum, Trustee
Dan Kelly, Trustee
Brian Mosallam, Trustee