

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

December 13, 2019

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

Trustees present: Dianne Byrum, Joel Ferguson (9:25 a.m. arrival) Melanie Foster, Dan Kelly, Renee Knake, Brian Mosallam, and Brianna Scott.

Trustees absent: Kelly Tebay.

University officers present: President Stanley, Interim Provost and Executive Vice President Sullivan, Executive Vice Presidents Beauchamp and Wilbur, Secretary Barr, Acting Vice President and General Counsel Quinn, Senior Vice Presidents Hsu and Woo, Vice Presidents Bales, Bollman, Byelich, Gore, Guerrant, Haas, Heil, and Maybank and Senior Advisor and Director Granberry Russell. Faculty liaisons present: Stephanie Anthony, Richard Fulton, Jennifer Johnson, Deborah Moriarty, and Anna Pegler Gordon. Student liaisons present: Meagan Abel, Eric Delannoy, Kylie Carrothers and Mario Kakos.

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

1. On a motion by Trustee Scott, supported by Trustee Mosallam, the **BOARD VOTED to approve** the agenda.
2. On a motion by Trustee Foster, supported by Trustee Mosallam, the **BOARD VOTED to approve** the minutes of the October 25, 2019 Board of Trustees meeting.
3. Board of Trustees Award Presentations

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

1. David W. Creswell—Major: Environmental Studies and Sustainability; 4.0 GPA
2. Ashley N. DePew—Major: Psychology; Member of the Honors College; 4.0 GPA
3. Gina P. Duff—Major: Supply Chain Management; 4.0 GPA
4. Emma G. Ford—Major: Human Biology; Member of the Honors College; 4.0 GPA
5. Grace C. Gelpi—Major: Music Performance; Member of the Honors College; 4.0 GPA

6. Madelyn L. Hanton—Major: Environmental Engineering; Member of the Honors College; 4.0 GPA
7. Jonas S. Higbee—Major: Theatre; Member of the Honors College; 4.0 GPA
8. Melissa N. Houghton – Major: Music Education; Member of the Honors College; 4.0 GPA
9. Julie G. Javorka—Major: Zoology; Member of the Honors College; 4.0 GPA
10. Brielle M. Komosinski—Major: Human Biology; Member of the Honors College; 4.0 GPA
11. Kate E. Lafrenz—Major: Arts and Humanities; 4.0 GPA
12. Amanda M. Pohl—Major: Kinesiology; Member of the Honors College; 4.0 GPA
13. Puneet Razdan—Major: Human Biology; Member of the Honors College; 4.0 GPA
14. Ryan L. Simon—Major: Mechanical Engineering; 4.0 GPA
15. Thomas Stolarczyk—Major: Packaging; 4.0 GPA
16. Daniel E. Turner—Major: Human Biology; 4.0 GPA
17. Raquel L. Zwick—Major: Human Biology; Member of the Honors College; 4.0 GPA

4. Public Participation

- a. Dr. Eunice Foster
- b. Dr. Ted Golden
- c. Amanda Thomashow
- d. Erika Davis
- e. Kristin Nagle
- f. Leigha Nichols
- g. Alexandra Bourque
- h. Sterling Riethman
- i. Kevin Bird

5. President's Report

President Stanley provided the following report to the Board:

I want to thank everyone who came forward and spoke today.

Since the Board last met, the university has released the full results of the Know More campus wide survey that was conducted last spring. The survey was conducted by an outside firm, and we recorded more than 15,000 responses across the breadth of the university, from students, faculty, and staff. The results are sobering, and we know we must do better as a university. But they do give us additional insight into our campus climate and incidences of relationship violence and sexual misconduct, and the impact some of the improvements we made so far across the campus on these critical issues. So, how are we responding? The RVSM expert advisory work group has begun a series of meetings with the campus community to discuss the survey results, answer questions, and most importantly, solicit ideas for how we can change MSU's culture. That feedback along with what we heard from survivors, will help inform strategic planning for RVSM prevention

efforts, policy updates, and resource development. That process will be led by the RVSM workgroup and my special advisors Dr. Rebecca Campbell and Lieutenant Andrea Munford. The survey results and additional information can be found on msu.edu under the Office for Civil Rights and Title IX pages "Know More" survey results.

I want to highlight two important hires we made that are important to this effort. Melody Warner is the new director for the Office of Institutional Equity, she joins us from Eastern Michigan University where she was Title IX coordinator. She will oversee all investigations under the relationship violence and sexual misconduct and antidiscrimination policies. At EMU she built the Title IX office from the ground up, including drafting policies and designing all Title IX operational systems and processes. She also oversaw all investigations and judications and Title IX complaints. She educated campus and community members about Title IX rights and responsibilities. And earlier, she was the senior associate athletics director, where she managed NCAA compliance and Title IX for men's and women's sports.

Our new associate vice president for the Office of Civil Rights and Title IX Compliance will be Tanya Jachimiak. She will join us on February 3<sup>rd</sup>. She will lead MSU's Prevention, Outreach and Education Department; the Office of Institutional Equity; and the Resolution Office, and will be a key asset as we continue to work in this vital area for the university. She has more than 20 years of experience in higher education and compliance work, and most recently she was the Title IX and section 504 coordinator at Wake Forest University in North Carolina. She chaired the Wake Forest Baptist Medical Center Clery and Title IX steering committee, the Wake Forest University sexual misconduct prevention policy and response team, the bias incident response team, co-chaired the president's committee on the intersection of freedom of expression and code of conduct, and was a member of the president's committee on race, equity and inclusion on the council of inclusion and diversity. And before that, she was Title IX coordinator and executive associate director of the office for access and equity at the University of Illinois in Chicago. She will replace Rob Kent who has been the interim associate vice president since June 2018. He will stay on in an advisory role until March, then he will return to the Office of the General Counsel.

Again, representing the efforts we are putting in this area, I want to congratulate MSU Police Lieutenant Andrea Munford who, next April, will be recognized for her victim-centered trauma-informed approach to investigating sexual assault. The honor comes from End Violence Against Women International, which is the largest professional organization of RVSM practitioners, policymakers, and researchers. The group says it applauds her passion for ensuring survivors are treated with the utmost compassion, respect, and sensitivity. With ongoing leadership from Professor Campbell, Lieutenant Munford, and the RVSM workgroup, and I hope with our growing prevention of assault programs and new hires, I believe we are assembling the right team for leading positive change at Michigan State University.

In other developments, as we saw from our student honorees earlier, this has been an impressive season for scholarship and achievement at MSU. Last week I visited the College of Engineers Design Day and was extraordinarily impressed with the caliber of the projects presented there. And I want to add my congratulations to our Rhodes Scholar, Anna Esenther, and our Marshall Scholar, Emily Steffke. Michigan State is extremely proud of both of you. I want to note that MSU recently marked another rise in our graduation rate up to 81 percent this year at six years. By comparison, the graduation rate for ranking four-year degree institutions is 60 percent. I am committed to doing better and closing achievement gaps between students and helping them overcome whatever barriers they may face. And it was certainly a great validation of the academic work that is going on at MSU to see the university ranked number one in the world for the study of education in the Shanghai global ranking of academic subjects. They rank more than 1,800 universities each year based on academic publishing. I think many of us in this room know that the College of Education has been ranked number one in the United States for both elementary and secondary teacher education for 25 years by US News and World Report, among other high rankings it possesses.

We have some good news for everyone who takes the bus as we have signed an agreement with CATA that provides free on campus bussing through June 2021. You will recall that MSU started offering fare-free bussing service on a pilot basis, and we saw ridership rise 40 percent. That shows people really value having a safe, convenient, and reliable transportation method. This is also a more sustainable option than adding more cars and parking spaces to campus. Although, we put some of our parking lots to good use with the nation's largest solar energy car port. These solar energy fixtures deliver the energy equivalent to powering more than 1,800 Michigan homes. It was nice to learn that Michigan State University is one of the nation's most environmentally responsible campuses. MSU was ranked number 19 on the Princeton Review's Top Green Colleges and is the only Big Ten school in the top 50. We are proud of our many environmental achievements, including earning a gold rating this year from the Association of Sustainability.

I have announced two important new planning initiatives for MSU. I named a strategic planning steering committee to develop a new plan to include engagement process for gathering input from campus and external stakeholders, including alumni and community leaders, about the university's vision, values, and strategic direction. This process will enable Michigan State University to consider its current state and identify underlying themes, strengths, and trends across campus, consider new opportunities, and respond to emerging and existing challenges. A strategic plan will create a shared vision for the future, with a common set of principles and values, seek opportunities to work together to leverage MSU's collective resources and establish cross-university collaborations and initiatives.

From my initial days on campus, I have said a culture embracing diversity, equity, and inclusion is central for all Michigan State University wants to accomplish. So, at the same time we are looking at MSU's strategic plan, I have named a diversity, equity, and inclusion steering committee. That group will reach out across the MSU community and inventory our efforts around diversity, equity, and inclusion, pinpoint existing synergies, and identify existing gaps, and make MSU a national leader for DEI. I want the group to identify, among other things, the position and success for students and faculty, research and scholarship educational programs, community engagement, and of course the culture that MSU community members live and experience every day. These important planning efforts will be complimentary to one another. I encourage everyone to learn more and keep tabs on these initiatives at my website, [president.msu.edu](http://president.msu.edu).

As many of you know, I have been meeting with members of diversity groups and these discussions have focused on the feasibility of a campus multicultural center. A feasibility study planning team has been working on this project, includes three students and three student alternatives, together with five representatives of on campus units, helping ensure student voices are an important contributor to this project.

I am also committed to ensure MSU can do everything it can for student health and wellness. ASMSU has initiated conversation on how a fall break would be beneficial to students, and I think it is a good idea. I am working with the Provost on this, and she is working with the appropriate University Governance bodies to conduct a pilot fall break to cancel undergraduate classes on November 2 and 3, 2020. That would coincide with next year's general election date on Tuesday, November 3, 2020. We will also ask university governance committees to craft a proposal to revise the academic calendar to make a two-day fall break permanent the following year. I am confident that we will be able to make an official announcement about the addition of a fall break to MSU's academic calendar sometime soon.

Finally, I am pleased that later today and tomorrow I will be joining our latest graduates at the commencement ceremonies at the Breslin Center. We will be honoring 1,954 undergraduate degree recipients, and 767 advanced degree recipients. This is the first graduation I will have the opportunity to celebrate with the MSU community, so it is particularly meaningful to me to be able to congratulate all of them and acknowledge their significant accomplishments.

As we look forward to commencement ceremonies and winter break, I would like to conclude by wishing everyone a warm, healthy, joyful, and safe holiday season.

## 6. Gift, Grant and Contract Report

Senior Vice President Hsu presented the Gifts, Grants, and Contracts Report for the period of August 6, 2019 through November 12, 2019. The report is a



compilation of 802 Gifts, Grants and Contracts plus 89 Consignment/Non-Cash Gifts, with a total value of \$170,353,811.

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

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

Senior Vice President Hsu introduced Dr. Ashley Shade, Department of Microbiology and Molecular Genetics, and the Department of Plant Soil and Microbial Sciences, who gave the Board a presentation entitled "Understanding Microbiome Resilience on a Changing Planet." (Appendix A)

7. Personnel Actions

Interim Provost Sullivan presented the following personnel actions:

Bradford, Barry AN—Professor, Department of Animal Science ANR, with Tenure, effective January 1, 2020.

Counts, Scott AN—Associate Professor, Department of Translational Neuroscience, with Tenure, effective December 14, 2019.

Daum, Matthew AN—Professor, Department of Packaging, with Tenure, effective January 1, 2020.

Misra, Dawn AN—Professor, Department of Epidemiology and Biostatistics, with Tenure, effective February 1, 2020.

O'Connor, Annette, AN—Professor, Department of Large Animal Clinical Sciences, with Tenure, effective February 1, 2020.

Barnhizer, Daniel, AN—Professor in law, with Tenure, effective January 1, 2020.

Bitensky, Susan H., AY—Professor in law, with Tenure, effective January 1, 2020.

Bowman, Kristine, AY—Professor in law, with Tenure, effective January 1, 2020.

Candeub, David Adam, AY—Professor in law, with Tenure, effective January 1, 2020.

Carter-Johnson, Jennifer, AY—Associate Professors in law, with Tenure, effective January 1, 2020.

Chen, James, AY—Professor in law, with Tenure, effective January 1, 2020.

Darden, Tiffani, AY—Professor in law, with Tenure, effective January 1, 2020.

Favre, David S., AY—Professor in law, with Tenure, effective January 1, 2020.

Fletcher, Matthew, AY—Professor in law, with Tenure, effective January 1, 2020.

Grosso, Catherine, AY—Professor in law, with Tenure, effective January 1, 2020.

Jacobs, Melanie, AN—Professor in law, with Tenure, effective January 1, 2020.

Kalt, Brian, AY—Professor in law, with Tenure, effective January 1, 2020.

Kuykendall, Mae, AY—Professor in law, with Tenure, effective January 1, 2020.

Lawrence, Michael A., AY—Professor in law, with Tenure, effective January 1, 2020.

Lawton, Anne, AY—Professor in law, with Tenure, effective January 1, 2020.

Morag-Levine, Noga, AY—Professor in law, with Tenure, effective January 1, 2020.

O'Brien, Barbara, AY—Professor in law, with Tenure, effective January 1, 2020.

Pager, Sean, AY—Professor in law, with Tenure, effective January 1, 2020.

Ponoroff, Lawrence, AY—Professor in law, with Tenure, effective January 1, 2020.

Ravitch, Frank, AY—Professor in law, with Tenure, effective January 1, 2020.

Reifenberg, John, AY—Professor in law, with Tenure, effective January 1, 2020.

Sant'Ambrogio, Michael, AY—Professor in law, with Tenure, effective January 1, 2020.

Saunders, Kevin W., AY—Professor in law, with Tenure, effective January 1, 2020.

Singel, Wenona, AY—Associate Professor in law, with Tenure, effective January 1, 2020.

Starnes, Cynthia Lee, AY—Professor in law, with Tenure, effective January 1, 2020.

Staszewski, Glen, AY—Professor in law, with Tenure, effective January 1, 2020.

Ten Brink, Charles, AY—Professor in law, with Tenure, effective January 1, 2020.

Thronson, David, AY—Professor in law, with Tenure, effective January 1, 2020.

Totten, Mark, AY—Associate Professor in law, with Tenure, effective January 1, 2020.

Largent, Mark AN- Associate Provost for Undergraduate Education and Dean of Undergraduate Studies, effective January 1, 2020.

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. They include the award of tenure and are recommended to be effective January 1, 2020.

- a. Moniruzzaman, Md, promotion to Associate Professor with tenure, Department of Anthropology.
- b. Steinberg, Ronen, promotion to Associate Professor with tenure, Department of History.

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

**THE BOARD VOTED to approve** the recommendations. Trustee Knake abstained.

#### 8. Committee on Budget and Finance

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

##### A. External Investment Advisory Subcommittee Member Appointments

It was recommended that the Board of Trustees reappoint Joel Wittenberg and appoint Anastasia Titarchuk to the Investment Advisory Subcommittee.

BE IT RESOLVED, that the Board of Trustees of Michigan State University hereby reappoints Joel Wittenberg as an external member of the Investment Advisory Subcommittee for a three-year term commencing January 1, 2020.

BE IT FURTHER RESOLVED, that the Board of Trustees of Michigan State University hereby appoints Anastasia Titarchuk as an external member of the Investment Advisory Subcommittee for a three-year term commencing January 1, 2020.

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



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

- B. Fund Functioning as an Endowment—Selma and Stanley Hollander Quality, Excellence, and Opportunity Endowment in the College of Music

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 "Selma and Stanley Hollander Quality, Excellence, and Opportunity Endowment in the College of Music."

Trustee Foster **moved to approve** the recommendation, with support from Trustee Scott.

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

- C. Long-Term Ground Lease with the MSU Foundation

It was recommended that the Board of Trustees authorize the Administration to enter into a long-term ground lease and development agreement with the MSU Foundation, for approximately five acres of land within the Spartan Village redevelopment area.

BE IT RESOLVED, that the Board of Trustees of Michigan State University hereby authorizes the Administration to enter into a long-term ground lease of approximately five acres with the MSU Foundation, a development agreement and all other documents required in connection therewith, upon such terms and conditions as may be acceptable to the President or his designee.

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

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

- D. Project Approval—Authorization to Proceed—Business College Complex—Eppley Center—Student Support and Capital Renewal

It was recommended that the Board of Trustees authorize the Administration to proceed with capital renewal and relocation of student support activities at the Eppley Center of the Business College Complex.

BE IT RESOLVED, that the Board of Trustees of Michigan State University hereby authorizes the Administration to proceed with the project entitled "Business College Complex—Eppley Center—Student Support and Capital Renewal" with a total budget of \$10,300,000.

Trustee Foster **moved to approve** the recommendation, with support from Trustee Kelly.

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

9. Academic Affairs Committee

Trustee Byrum presented the Trustee Academic Affairs Committee Report and the following recommendations and resolutions.

A. Law College Board Appointments

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

Colleen M. McNamara, commencing on January 1, 2020.

Mayer Morganroth, commencing on January 1, 2020.

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

**THE BOARD VOTED to approve** the recommendation. Trustee Knake abstained.

10. Audit, Risk and Compliance Committee

Trustee Kelly presented the Trustee Audit, Risk and Compliance Committee Report and the following recommendations and resolutions.

A. Approval of Contract Terms

It was recommended that the Board of Trustees approve a contract between Michigan State University and *Cove Diamond, LLC*, a company in which MSU faculty member Dr. Timothy Grotjohn holds a financial interest.

BE IT RESOLVED, that the Board of Trustees of Michigan State University hereby approves a license agreement with *Cove Diamond, LLC* consistent with earlier public notice given at a Board meeting and with a "License Agreement Term Sheet" presented to the Board for inclusion in its minutes. (Appendix B)

It was recommended that the Board of Trustees approve a contract between Michigan State University and *Great Lakes Crystal Technologies, Inc.*, a company in which MSU faculty member Dr. Timothy Grotjohn holds a financial interest.

BE IT RESOLVED, that the Board of Trustees of Michigan State University hereby approves a license agreement with Great Lakes Crystal Technologies, Inc. consistent with earlier public notice given at a Board meeting and with a "License 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 *Mid Michigan Research, LLC*, a company in which MSU faculty member Dr. Harold J. Schock holds a financial interest.

BE IT RESOLVED, that the Board of Trustees of Michigan State University hereby approves a sponsored research agreement with *Mid Michigan Research, 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 D)

It was recommended that the Board of Trustees approve a contract between Michigan State University and *Mid Michigan Research, LLC*, a company in which MSU faculty member Dr. Harold J. Schock holds a financial interest.

BE IT RESOLVED, that the Board of Trustees of Michigan State University hereby approves a sponsored research agreement with *Mid Michigan Research, 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 E)

It was recommended that the Board of Trustees approve a contract between Michigan State University and *Namesforlife, LLC*, a company in which MSU faculty members Dr. George Garrity and Dr. James Cole hold financial interests.

BE IT RESOLVED, that the Board of Trustees of Michigan State University hereby approves an amended license agreement with *Namesforlife, LLC* consistent with earlier public notice given at a Board meeting and with an "Amended License Agreement Term Sheet" presented to the Board for inclusion in its minutes. (Appendix F)

Trustee Kelly **moved to approve** the recommendations, with support from Trustee Scott.

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

B. Notice of Intent to Negotiate Contracts

Pursuant to State law, the Chair of the Trustee Committee on Audit, Risk and Compliance is requested to give public notice of the University's intent to negotiate contracts with *SynCrobial Therapeutics, Inc.*, a Michigan company. Dr. Christopher Waters, a Professor in the Department of Microbiology and Molecular Genetics, and members of his family, have, or have options to buy, an interest in the company or are officers or paid employees of the company.

Pursuant to State law, the Chair of the Trustee Committee on Audit, Risk and Compliance is requested to give public notice of the University's intent to negotiate contracts with *Corporation of Digital Scholarship*, a Virginia corporation. Dr. Sharon Leon, an Associate Professor in the Department of History, and members of her family, have, or have options to buy, an interest in the company or are officers or paid employees of the company.

11. Student Life and Culture Committee

Trustee Scott presented the Trustee Student Life and Culture Committee Report.

The Committee on Student Life and Culture discussed safety and mobility on campus with MSUPD and discussed the Counseling and Mental Health Services Fund with RVSM Advisors Dr. Rebecca Campbell and Detective Andrea Munford.

*Trustee Ferguson joined the meeting.*

12. Chairperson's Report and Trustee Comments

Trustee Byrum welcomed new board member, Renee Knake. She stated that she is looking forward to working with Renee and welcomes her experience from both her decade-long service at MSU as a tenured professor in the College of Law and from her experience at Houston Law Center. Trustee Byrum noted that commencement is an exciting time for the graduates and their families and friends. She said that it was inspiring to listen to the Trustee Scholarship Awardees discuss their plans. Trustee Byrum acknowledged *Time Magazine's* Person of the Year, Greta Thunberg, climate crisis activist. She said that one person can make a difference and that MSU is a university with thousands of young people poised to make a difference in the world. Trustee Byrum wished everyone a happy and healthy holiday season and a Happy New Year. Trustee Byrum yielded the floor to faculty liaison, Deb Moriarty, who introduced a statement that was unanimously adopted by Faculty Senate.

Deb Moriarty introduced faculty liaison, Dr. Stephanie Anthony, who read the following statement: Recent events on our campus require that we, the MSU faculty senate, emphasize our position of support for diversity and inclusion. We unequivocally support all students, staff, and faculty of the MSU community, regardless of color, race, gender, gender identity, ability status, country of origin and religious belief. We will continue the work that creates an inclusive, diverse community, one that respects and celebrates our differences, promotes our commonalities and recognizes our unique contributions. We summarily reject any circumstances which alienate, demean or make students feel less than others. We strive for a supportive environment that is free from hate, racism, sexism, misogyny, ableism, religious subversion and bullying of any kind. We are working to make a positive difference.

Trustee Foster welcomed Renee Knake and said she is looking forward to working with her. She expressed her pride in the 81 percent graduation rate and noted that Dr. Stanley made significant accomplishments in graduation rates, especially in underrepresented groups, at his prior institution. Trustee Foster congratulated graduates. She wished everyone a healthy and happy holiday season.

Trustee Kelly stated that when there is pending litigation between someone and the university, it is in the best interest of the university to not respond during public comment to allow for it to be settled in court. In response to the public comments of Amanda Thomashow and Sterling Riethman, he said that he does not believe there was any wrong doing by the Board in 2014 and that no Board member is trying to hide facts from the public.

Trustee Mosallam welcomed Trustee Renee Knake. He congratulated the Board of Trustee Award recipients and all graduates. He wished everyone happy holidays. He thanked survivors Sarah, Sterling, and Rachel for their work. He stated his disappointment that they could not find a solution regarding the waiver issue.

Trustee Scott welcomed Renee Knake and congratulated the graduates. She stated that she believes the Board is working in the best interest of the university while maintaining respect to survivors and noted that the Board was counseled that they could not release privilege documents without waiving attorney client privilege. Trustee Scott wished everyone happy holidays

Trustee Knake read the following statement:

I want to thank Governor Gretchen Whitmer for appointing me to serve as a trustee of Michigan State university, and to thank President Stanley, the administration, and my fellow trustees for such a warm welcome. It is an honor to be in this role, helping to lead a premier land grant university, the product of legislation signed by President Abraham Lincoln to expand educational opportunities. While I do not hold a degree from Michigan State, I got my start in Chicago, first at a small liberal



arts school, North Park College, and then at the University of Chicago Law School. After practicing law for several years, I received a tremendous education during my academic career here first as a lecturer and ultimately as a tenured full professor in the Law College. I have raised my children in East Lansing, immersed in all that campus life has to offer, from music performances to art installations to livestock exhibitions and athletic events. I care deeply about the future of this institution. It has opened doors for so many students. Its outstanding professors have employed their talents to advance the sciences, economics, arts, agriculture, philosophy, engineering, and so much more. I am humbled to play a small role now as the university's trustee.

For the past few years, I have been a member of the University of Houston law faculty, which affords me an outsider's perspective, informed by my academic research, publications, and teaching in legal ethics and gender equality. It is with this background that I am ready to roll up my sleeves and get to work on all of the challenges and opportunities facing this institution. We are all here to make Michigan State a more inclusive, diverse, impactful, and safe university for the students, alumni, faculty, and staff. An important aspect of this is how the university addresses the harms suffered by the survivors of Larry Nassar's calculated abuse as well as the sexual misconduct that continues on this campus today. The recently published climate survey shows that significant numbers of students experienced sexual harassment or assault during the 2018-19 academic year. This is a crisis. No one should endure sexual harassment or violence as a rite of passage during their university experience. This institution needs major structural reform to prevent these harms. We must create a culture of accountability, transparency, and due process to get to the heart of this issue. I commend the administration for conducting the climate survey and for making it public, and I know that the administration already is and we will all continue to be working together on reforms. I want the survivors to know that I and the Board will listen to them.

For my part, as one initial step, I have asked that a component of my new trustee orientation, which began earlier this week, include formal training on trauma-informed communication and practices. I encourage all my fellow trustees to complete this training, which should be incorporated as standard training for trustees and other campus leaders. As another initial step, regarding the issue about the release of privileged documents, I asked to look at them myself, and next week I will begin personally reviewing the privileged documents from the Nassar investigation. When I see those materials with my own eyes, I will have an informed basis to make recommendations about how they should be handled. These small steps are concrete efforts to honor my oath to this institution and to the Michigan State community. In just my first few days as a trustee I already have heard from many of you—students, faculty, staff, and others. I want you to know that I am committed to listening and learning from everyone who is willing to help move the university forward. Thank you, again, to the administration and my fellow Board members for all you have done to help me hit the ground running in the few

days since the announcement of my appointment. I am excited to work with all of you.

13. Request to Adjourn

On a motion by Trustee Kelly, supported by Trustee Byrum, **THE BOARD VOTED to adjourn** at 9:34 a.m.

Respectfully submitted,



Nakia Barr  
Secretary of the Board of Trustees



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# Understanding microbiome resilience on a changing planet

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**Ashley Shade, Ph.D.**

Department of Microbiology and Molecular Genetics – College of Natural Sciences

Department of Plant, Soil and Microbial Sciences – College of Agriculture and Natural Resources

Program in Ecology, Evolutionary Biology and Behavior

The Great Lakes Bioenergy Research Center

The Plant Resilience Institute

Board of Trustees Meeting

13 December 2019



# MICROBIAL ECOLOGY



AT  
MICHIGAN  
STATE  
UNIVERSITY

**James M. Tiedje**, Professor (b. 1942). B.S., 1964, Iowa State University; M.S., 1966, Ph.D., 1968, Cornell University. Ecology, physiology, and biochemistry of microorganisms in soil and aquatic ecosystems; metabolism of pesticides and other xenobiotics.



**C. A. Reddy**, Associate Professor (b. 1941). B.V.Sc., 1962, Sri Venkateswara University; M.S., 1967, Ph.D., 1970, University of Illinois; Postdoctoral Fellow, 1970-1972, University of Georgia. Electron-transport-linked phosphorylation in anaerobic bacteria; biochemical ecology of methanogenic bacteria and nonmethanogenic chemotrophic anaerobes; physiology, nutrition, and taxonomy of certain corynebacteria; fermentative conversion of agricultural wastes into animal feeds.



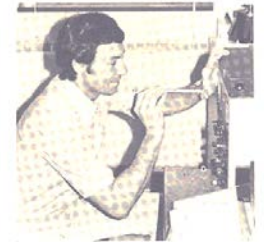
**Michael J. Klug**, Associate Professor (b. 1941). B.S., South Dakota State University; M.S., 1966, Ph.D., 1969, University of Iowa; Postdoctoral Fellow, 1970-1971, University of Illinois. Microbial transformations of naturally occurring organic compounds; ecology of anaerobic bacteria and microorganisms associated with insect larvae feeding on detritus.



**Frank B. Dazzo**, Assistant Professor (b. 1948). B.S., 1970 Florida State University; M.S., 1972, Ph.D., 1975, University of Florida; Postdoctoral Fellow, 1976-1977, University of Wisconsin. Biochemistry and physiology of plant-microbe interactions; biological nitrogen fixation; bacterial adhesion to biological surfaces; cellular recognition.



**John A. Breznak**, Associate Professor (b. 1944). B.S., 1966, Rutgers University; Ph.D., 1971, University of Massachusetts; Postdoctoral Fellow, 1971-1973, University of Wisconsin. Biochemistry of microbial symbioses; anaerobic purine metabolism.



## The Center for Microbial Ecology, est. 1976

A legacy of **excellence** and **leadership** in microbial ecology research at Michigan State



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Arizona State University	<a href="#">Microbiomics Initiative</a>
California Institute of Technology	<a href="#">Center for Environmental Microbial Interactions</a>
Colorado State University	<a href="#">Microbiome Network</a>
Department of Defense	<a href="#">DoD Tri-Service Microbiome Consortium</a>
Duke University	<a href="#">Duke Microbiome Center</a>
Johns Hopkins University	<a href="#">Microbiome Research Group</a>
Joint Genome Institute	<a href="#">National Microbiome Data Collaborative</a>
Lawrence Berkeley Lab	<a href="#">Microbes to Biomes (M2B)</a>
Medical College of Wisconsin	<a href="#">MCW Center for Microbiome Research</a>
Northern Arizona State University	<a href="#">The Microbiome Center</a>
Pacific Northwest National Lab	<a href="#">Microbiomes in Transition Initiative</a>
Pennsylvania State University	<a href="#">Penn State Microbiome Center</a>
Rutger's University	<a href="#">Center for Advanced Biotechnology and Medicine</a>
University of California, Berkeley	<a href="#">Microbiome Initiative</a>
University of California, Davis	<a href="#">Microbiome Special Research Program</a>
University of California, Irvine	<a href="#">UCI Microbiome Initiative</a>
University of California, Riverside	<a href="#">UCR Microbiome Initiative</a>
University of California, San Diego	<a href="#">Center for Microbiome Innovation</a>
University of Chicago	<a href="#">The Microbiome Center</a>



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**OTHER MICROBIOME CENTERS AND ORGANIZATIONS**

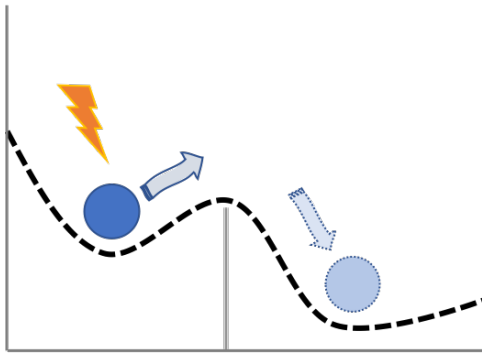
American Gastroenterology Association	<a href="#">Center for Gut Microbiome Research &amp; Education</a>
AMICI	<a href="#">Austrian Microbiome Initiative</a>
Argonne National Lab	<a href="#">Microbiome Center</a>
Arizona State University	<a href="#">Alkek Center for Fundamental &amp; Applied Microbiomics (CFAM)</a>
Baylor College of Medicine	<a href="#">Alkek Center for Metagenomics and Microbiome Research</a>
Baylor College of Medicine	<a href="#">Center for Metagenomics and Microbiome Research</a>
Baylor College of Medicine	<a href="#">Texas Children's Microbiome Center</a>
Bigelow Laboratory	<a href="#">Bigelow Laboratory Single Cell Genomics Center</a>
Bioaster	<a href="#">Bioaster Microbiology Technology Institute</a>
Boston University	<a href="#">Boston University Microbiome Initiative</a>
Brigham and Women's	<a href="#">Massachusetts Host Microbiome Center</a>
Chan Zuckerberg	<a href="#">Chan Zuckerberg Biohub Microbiome</a>
Cleveland Clinic	<a href="#">Center for Microbiome and human Health</a>
Cornell University	<a href="#">Cornell Institute of Host-Microbe Interactions and Disease</a>
Dalhousie University	<a href="#">Integrated Microbiome Resource</a>
	<a href="#">Military and Veterans Microbiome</a>

Numerous new microbiome centers and microbial diversity institutes have been created following the example of Michigan State!

These centers contribute to cutting-edge microbiome research at almost every major research university, hospital, and institute in the US, and also several abroad.



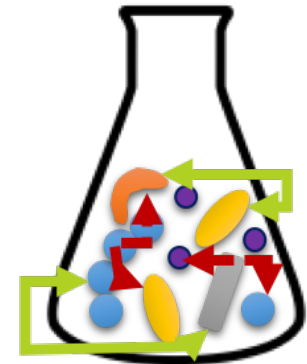
# Shade Lab Research: Microbiome Resilience



Microbial ecology & evolution



Microbial controls in agroecosystems



Microbial interactions

# What is a microbiome?

A community of microbial populations that live together and interact with each other or with their local environment.

Emphasis on understanding the *genes* and *molecules* of the community *as a system*



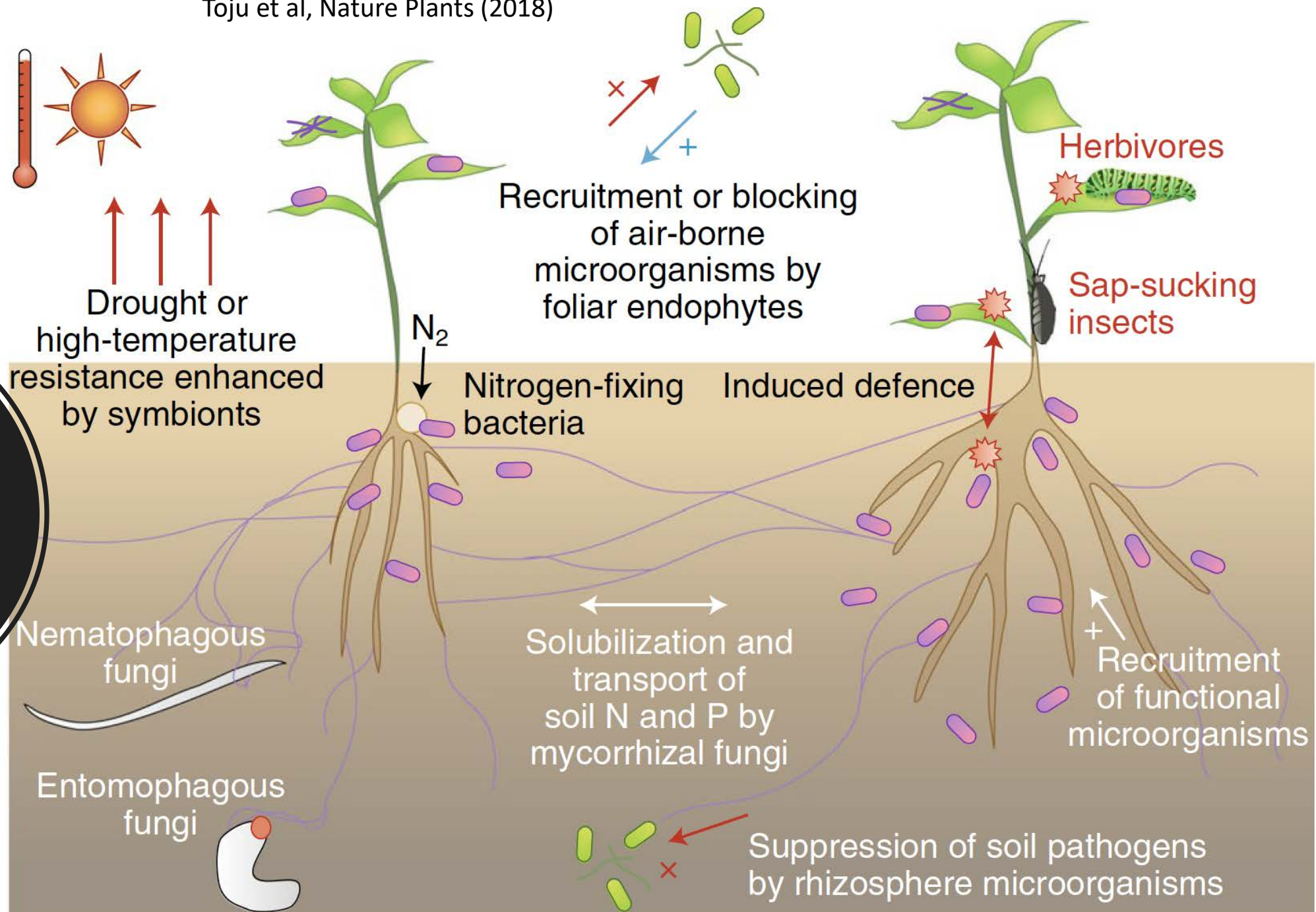
# What is a microbiome, cont.?

A community of microbial populations that live together and interact with each other or with their local environment.

Emphasis on understanding the *genes* and *molecules* of the community *as a system*



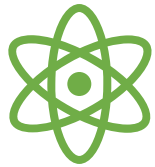
The plant microbiome is important and dynamic





Microbiomes are studied as systems using 'Omics technologies

- Sequencing of microbial DNA (genes and genomes) and RNA (activities) – metagenomics and metatranscriptomics
- Quantifying metabolites, signals, and resources of the microbiome – mass spectrometry - metabolomics
- Bioinformatic and statistical analyses – large memory computing




MICHIGAN STATE UNIVERSITY  
College of Natural Science  
Research Technology Support Facility

Genomics Flow Cytometry IVIS Imaging Mass Spectrometry Proteomics  
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## Mass Spectrometry and Metabolomics Core

Mass Spectrometry, Research, Analysis



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## Genomics

Genomics, Research  
Homepage Images



MICHIGAN STATE UNIVERSITY  
ICER INSTITUTE FOR CYBER-ENABLED RESEARCH

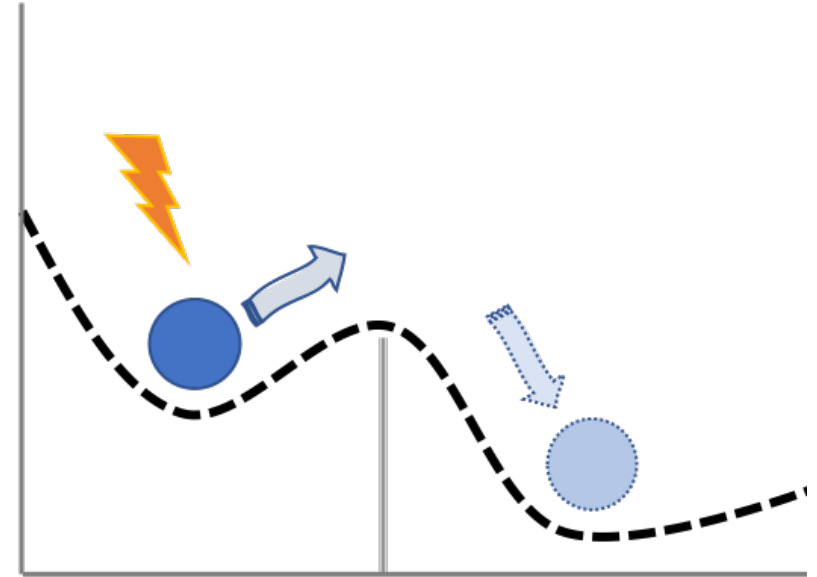
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<b>Total Jobs</b> <b>38.3M</b> All Time Last updated at 11:14	<b>ICER Facts</b> 21,716-Core Compute Cluster with 128TB of Aggregate Memory. Last updated at 11:14	<b>Node Utilization</b> <b>87.5</b> Percentage of Utilized Nodes
<b>Queue Stats</b> 1. Jobs Submitted: 52 2. Jobs Completed: 177 3. Jobs Started: 177 Rate is Per-Minute	<b>Active Cores</b> <b>12.5K</b>	<b>Running Jobs</b> <b>2,864</b> Graph Shows Last 24 Hours (UTC)



# Resilience

The capacity of a system to recover after it has been altered by a disturbance



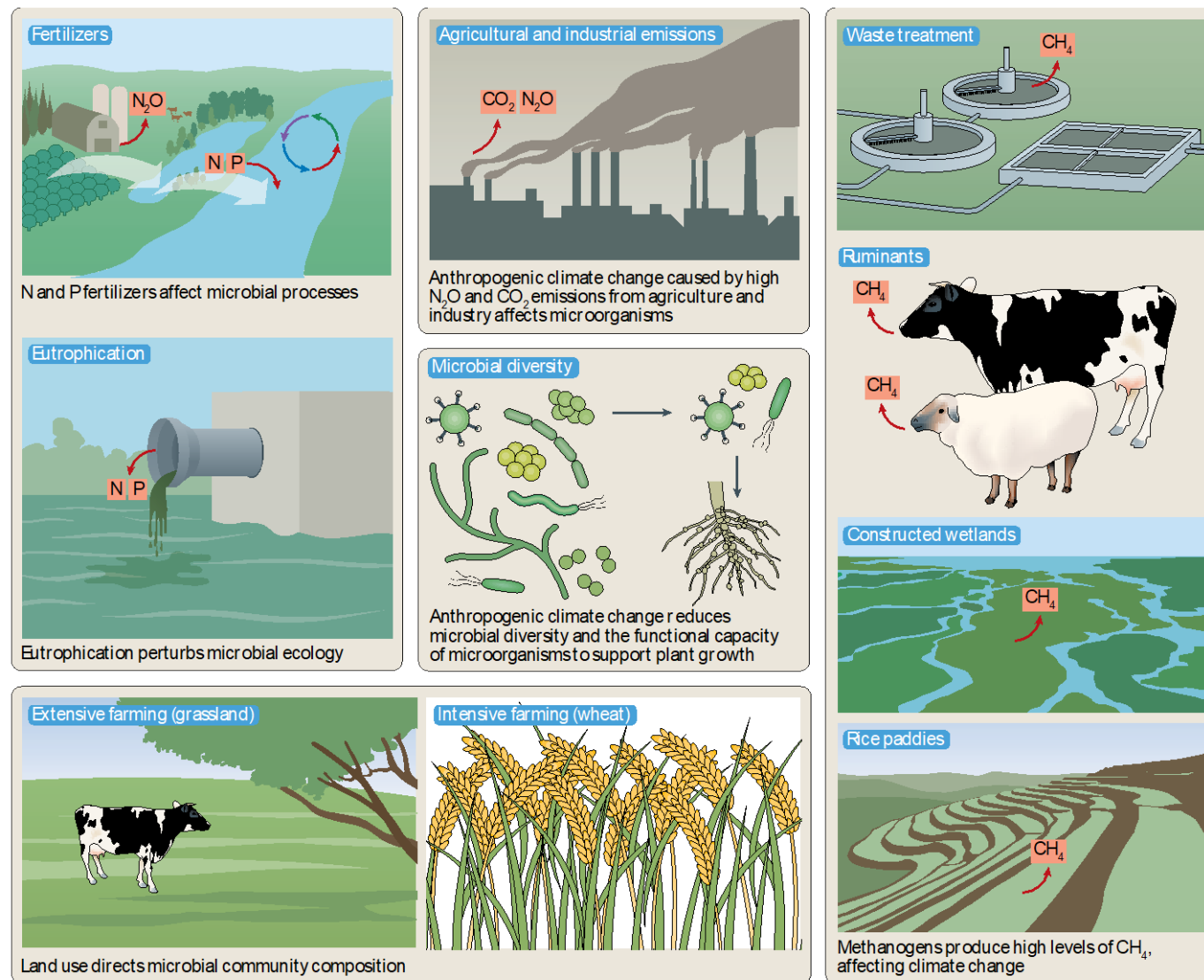


Fig. 2 | **Agriculture and other human activities that affect microorganisms.** Agricultural practices influence microbial communities in specific ways. Land usage (for example, plant type) and sources of pollution (for example, fertilizers) perturb microbial community composition and function, thereby altering natural cycles of carbon, nitrogen and phosphorus transformations. Methanogens produce substantial quantities of methane directly from ruminant animals (for example, cattle, sheep and goats) and saturated soils with anaerobic conditions (for example, rice paddies and constructed wetlands). Human activities that cause a reduction in microbial diversity also reduce the capacity for microorganisms to support plant growth.

Because of the intricate feedbacks and relationships between microbiome functions and Earth's climate, understanding **microbiome resilience** is urgent and important.

We want to predict and manage **microbial communities** towards stable **functions** in the face of ongoing and amplifying consequences of environmental change.





Because of our strength and excellence in plant sciences and agriculture,  
**Michigan State is poised to lead in plant-microbiome research.**



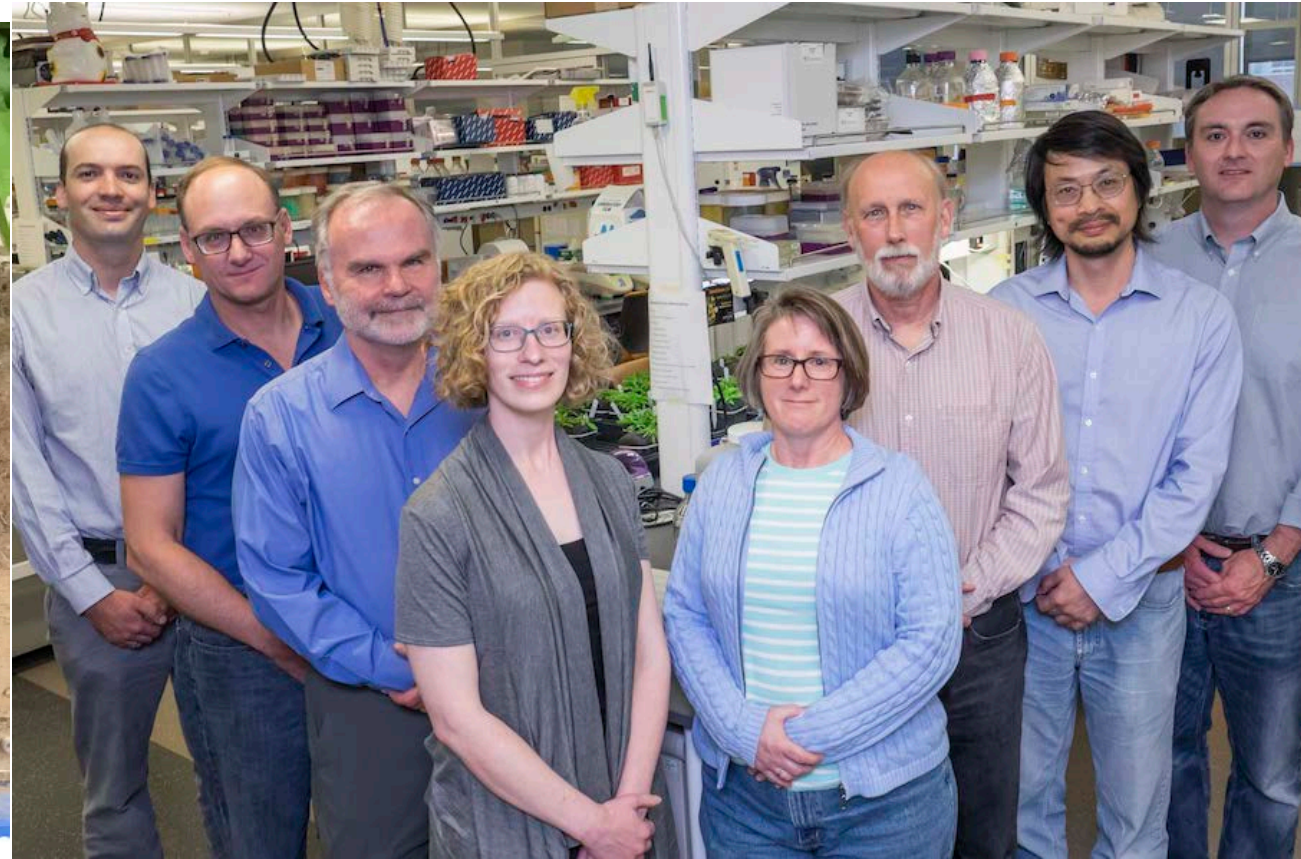
**MICHIGAN STATE**  

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**UNIVERSITY**

Plant Resilience Institute





Scientists at the MSU Plant Resilience Institute conduct innovative research to understand how plants cope with environmental conditions associated with climate change in efforts to maximize food security.





Common bean  
(*Phaseolus vulgaris*)

Is the **primary grain legume** for human consumption (rich in fiber, minerals, vitamins and protein), especially in South America and Africa

Yields and production area are predicted to decrease due to the impacts of global change.

Important crop for Michigan agriculture, and key genetic resources and breeding expertise at Michigan State

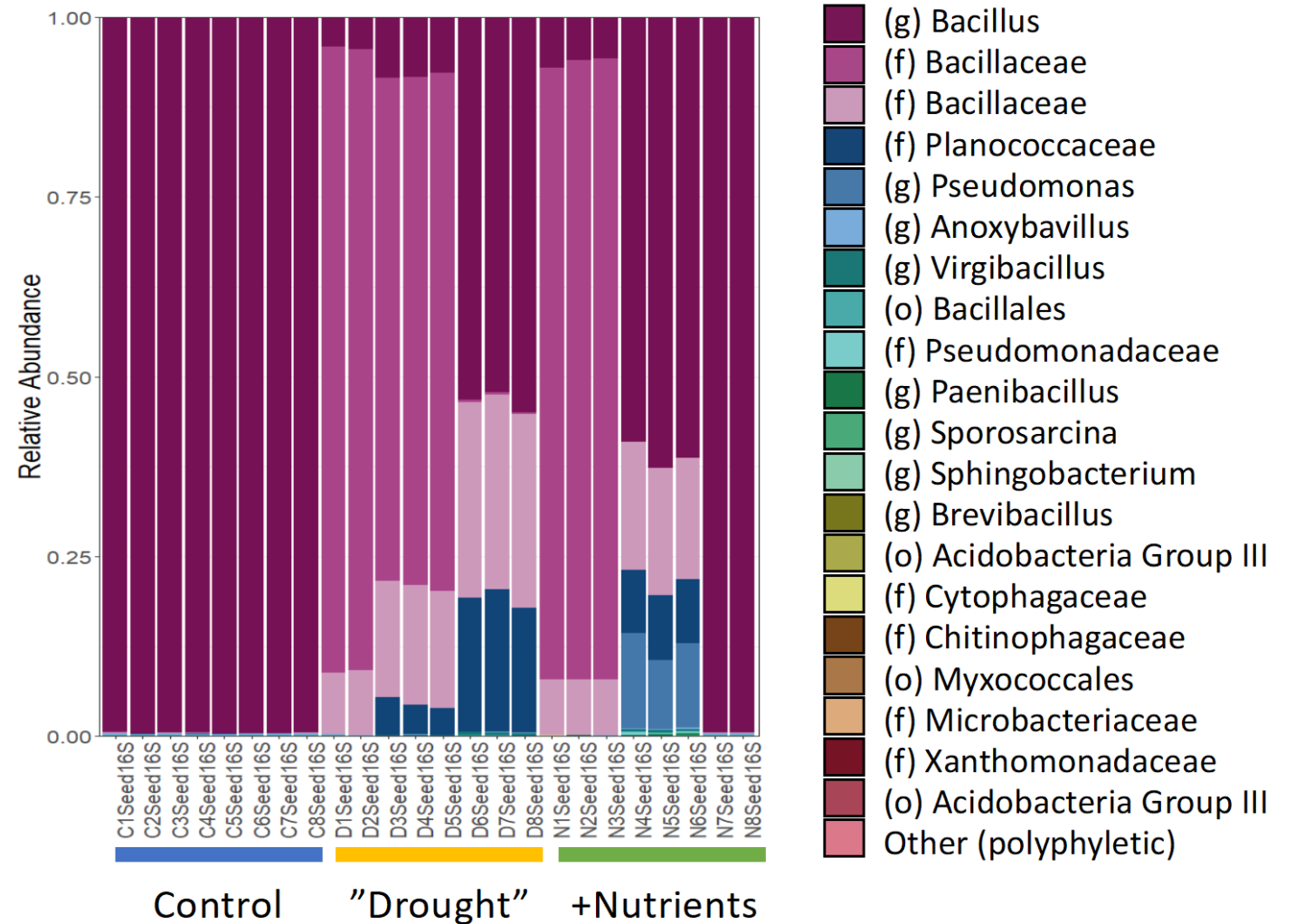
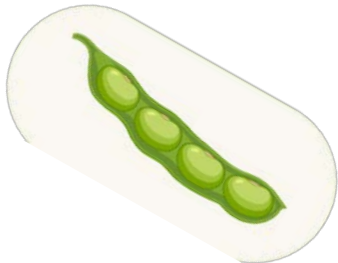
**MICROBES  
CAN HELP  
FEED  
THE WORLD**

THE AMERICAN SOCIETY OF MICROBIOLOGY



## The bean seed microbiome is altered when the maternal plant is stressed

- Seeds produced by stressed plants have a different microbiome than those produced by control plants.
- Seeds produced by stressed plants have higher variability than control plants.





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## Current research questions: Mechanisms and consequences of an altered seed microbiome

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- What seed microbiome members are favored or disadvantaged when the maternal plant is stressed? What are their relationships with the plant?
- Do particular seed microbiome members result from particular stressors (or is it a general “dysbiosis”)?
- Does an altered seed microbiome have consequences for the health or productivity of the next plant generation?
- Is there a trade-off in the plant outcomes of an altered seed microbiome across optimal versus stressed conditions?

The next generation  
of microbial ecology  
& evolution faculty at  
Michigan State

Greg Bonito  
CANR/NatSci



Lisa Tiemann  
CANR



Kevin Liu  
Engineering



Robert Quinn  
NatSci



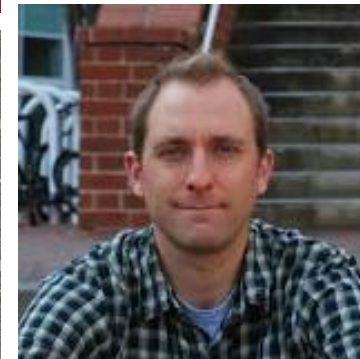
Questions?



Sarah Evans  
NatSci (KBS)



Ashley Shade  
NatSci/CANR



Matt Schrenk  
NatSci



Yann Dufour  
NatSci



### LICENSE AGREEMENT TERM SHEET

<b>Party:</b>	Cove Diamond, LLC
<b>Agreement:</b>	Non-Exclusive License in the field of lab-grown diamonds
<b>Technology:</b>	<p>MSU TEC2007-0078 "Process and Apparatus for Diamond Synthesis," US Patent Nos. 9,487,858 and 9,732,440; TEC2010-0076 "N-Doped Single Crystal Diamond Substrates and Methods Therefor," US Patent No. 9,166,002; TEC2014-0115 "Methods and Apparatus for Microwave Plasma Assisted Chemical Vapor Deposition Reactors," US Patent Application 15/313,250; TEC2015-0061 "Diamond Deposition Reactor Improvements," US Patent Application 15/463,046; and TEC2018-0100 "Method to Fabrication of Large Area Diamond Substrate," PCT Patent Application PCT/US2019/032602.</p> <p>The parties may add or remove technologies under the agreement, including improvements generated under a separate sponsored research agreement, provided the change does not affect the financial consideration of the parties or the nature or extent of any pecuniary interest of MSU personnel.</p>
<b>Term:</b>	Effective Date – to the last to expire of the patents
<b>Potential Commercial Application:</b>	Lab-grown diamonds and related devices
<b>Payment Terms:</b>	\$1,000 to MSU within 30 days of the effective date; \$4,000 milestone payments, annual minimums beginning 2021 and 2.0-4.0% on net sales; reimbursement of patent costs
<b>Services Provided:</b>	<p>By MSU to Cove Diamond, LLC: None contemplated under the agreement</p> <p>By Cove Diamond, LLC to MSU: None contemplated under the agreement</p>



## LICENSE AGREEMENT TERM SHEET

<b>Party:</b>	Great Lakes Crystal Technologies, Inc.
<b>Agreement:</b>	Non-Exclusive License in the field of lab-grown diamonds
<b>Technology:</b>	<p>MSU TEC2007-0078 "Process and Apparatus for Diamond Synthesis," US Patent Nos. 9,487,858 and 9,732,440; TEC2010-0076 "N-Doped Single Crystal Diamond Substrates and Methods Therefor," US Patent No. 9,166,002; TEC2014-0115 "Methods and Apparatus for Microwave Plasma Assisted Chemical Vapor Deposition Reactors," US Patent Application 15/313,250; TEC2015-0061 "Diamond Deposition Reactor Improvements," US Patent Application 15/463,046; and TEC2018-0100 "Method to Fabrication of Large Area Diamond Substrate," PCT Patent Application PCT/US2019/032602.</p> <p>The parties may add or remove technologies under the agreement, including improvements generated under a separate sponsored research agreement, provided the change does not affect the financial consideration of the parties or the nature or extent of any pecuniary interest of MSU personnel.</p>
<b>Term:</b>	Effective Date – to the last to expire of the patents
<b>Potential Commercial Application:</b>	Lab-grown diamonds and related devices
<b>Payment Terms:</b>	\$1,000 to MSU within 30 days of the effective date; \$4,000 milestone payments, annual minimums beginning 2021 and 2.0-4.0% on net sales; reimbursement of patent costs
<b>Services Provided:</b>	<p>By MSU to Great Lakes Crystal Technologies, Inc.: None contemplated under the agreement</p> <p>By Great Lakes Crystal Technologies, Inc. to MSU: None contemplated under the agreement</p>

**SPONSORED RESEARCH AGREEMENT TERM SHEET**

<b>Party:</b>	Mid Michigan Research, LLC
<b>Agreement:</b>	Fuel development by MSU as a subrecipient under a US Department of the Army grant
<b>Term:</b>	Effective Date – April 7, 2020
<b>Potential Commercial Application:</b>	Fuel development for jet fired engines
<b>Payment Terms:</b>	\$25,000 to MSU in fees for service
<b>Services Provided:</b>	By MSU to Mid Michigan Research, LLC: provide a light fraction for testing and provide designs for on-board and off-board fractionators  By Mid Michigan Research, LLC to MSU: None contemplated under the agreement
<b>Use of University Facilities/Personnel:</b>	Work to be performed at MSU's Engineering Building by, or supervised by, Dr. Carl Lira
<b>Organization Type:</b>	Michigan limited liability company
<b>Personnel Interest:</b>	Dr. Harold J. Schock, a Professor in the Department of Mechanical Engineering, and members of his family, own or have options to buy an ownership interest of more than 1% of the company.

**SPONSORED RESEARCH AGREEMENT TERM SHEET**

**Party:** Mid Michigan Research, LLC

**Agreement:** Testing of fuel by MSU as a subrecipient under a US Department of the Army grant

**Term:** Effective Date – April 7, 2020

**Potential Commercial Application:** Testing of fuel in a jet fired engine

**Payment Terms:** \$15,000 to MSU in fees for service

**Services Provided:** By MSU to Mid Michigan Research, LLC: testing of JP-8 fuel in a jet fired engine  
  
By Mid Michigan Research, LLC to MSU: None contemplated under the agreement

**Use of University Facilities/Personnel:** Work to be performed at MSU's Engineering Building by, or supervised by, Guoming Zhu

**Organization Type:** Michigan limited liability company

**Personnel Interest:** Dr. Harold J. Schock, a Professor in the Department of Mechanical Engineering, and members of his family, own or have options to buy an ownership interest of more than 1% of the company.

**AMENDED LICENSE AGREEMENT TERM SHEET**

<b>Party:</b>	NamesforLife, LLC
<b>Agreement:</b>	Amendment to an Exclusive License Agreement
<b>Technology:</b>	TEC2004-0007 "Systems and Methods for Resolving Ambiguity between Names and Entities" and TEC2003-0065 "Methods for Data Classification"
<b>Term:</b>	Effective Date – until the last of the patents expire
<b>Potential Commercial Application:</b>	Biological and medical applications
<b>Payment Terms:</b>	Amended payment terms from the exclusive license agreement entered into on May 1, 2012 to reflect payment to MSU of 25% of sublicensing revenues (down from 50%) and minimum annual royalty of \$2,500 (down from \$10,000)
<b>Use of University Facilities/Personnel:</b>	None contemplated under the agreement
<b>Organization Type:</b>	Michigan limited liability company
<b>Personnel Interest:</b>	Dr. George Garrity, a Professor in the Department of Microbiology and Molecular Genetics, Dr. James Cole, a Professor in the Center for Microbial Ecology, and members of their families, own or have options to buy an ownership interest of more than 1% of the company.