

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

October 26, 2012

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

Trustees present: Brian Breslin, Dianne Byrum, Joel Ferguson, Melanie Foster, Mitch Lyons, Faylene Owen, George Perles and Diann Woodard.

University officers present: President Simon, Provost Wilcox, Vice President Poston, Secretary Beekman, Vice President and General Counsel Noto, Vice Presidents Burnham, Groves, Hsu, and Swain, Interim Vice President Maybank, and Senior Advisor and Director Granberry Russell. Faculty liaisons present: William Anderson and Deborah Moriarty. Student liaisons present: Stefan Fletcher, Kelcey Gapske, Martin Garcia, and Evan Martinak.

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

1. On a motion by Trustee Foster, supported by Trustee Ferguson, the **BOARD VOTED to approve** the agenda.
2. On a motion by Trustee Owen, supported by Trustee Ferguson, the **BOARD VOTED to approve** the minutes of the Board meeting of September 7, 2012.
3. President's Report

President Simon provided the following report to the Board.

A. MasterCard Scholars Program at MSU

The MasterCard Foundation announced MSU will be a participant in The MasterCard Foundation Scholars Program, supported by \$45 million in funding, the largest cash commitment in the University's history. As a partner in this global initiative, MSU is one of nine universities in the world which will join the Foundation to ensure that academically able and economically disadvantaged youth in Sub-Saharan Africa have access to a quality university education.

B. Military Friendly Schools

Because of all it does to help service men and service women transition to college after the military, MSU has been named a Military Friendly School by G.I. Jobs magazine. The publication compiled a list of the top 15 percent of colleges, universities and trade schools it says are doing the most to help military members, veterans and their spouses succeed in college.

C. MSU Designated StormReady

The National Weather Service in Grand Rapids presented MSU officials with the StormReady University Designation during a ceremony on September 21, 2012. The Emergency Management Division at the MSU Police Department worked hard to meet all of the criteria for preparedness, planning and warning for severe weather to receive this designation. Congratulations to Penny Fischer and her division for their work to protect the community.

D. MSU Partners with Grand Valley State University and Central Michigan University

A new online certificate offered by Grand Valley State University (GVSU) aims to train students to work in clinical research. The certificate is a partnership between GVSU and MSU, and will give students from both schools the skills needed to develop and oversee clinical research projects. The program is geared toward health care professionals or recent graduates looking to broaden their skills.

MSU also recently announced a partnership with Central Michigan University (CMU). CMU has created three positions in its physics department. Those faculty members will do research at the MSU Superconducting Cyclotron Laboratory and, ultimately, at the Facility for Rare Isotope Beams. The partnership will strengthen the faculty at both institutions and increase research capacity.

E. MSU Professor Takes Lead Role in National STEM Initiative

A University faculty member is taking a lead role in a national initiative designed to improve the quality of undergraduate teaching and learning in science, technology, engineering and mathematics, the STEM fields. James Fairweather, a professor in higher, adult and lifelong education, will serve as co-principal investigator of the Association of American Universities' project which is working to

implement new, more interactive methods of instruction in these fields, particularly in first and second year courses.

F. MSU After-School Program Honored Nationally

A long-standing after-school program created by Michigan State University has been honored as having one of the nation's most innovative approaches to helping middle school students succeed. GET City (Green Energy Technologies in the City) received a 2012 Afterschool Innovator Award presented October 18, 2012 by the Afterschool Alliance and MetLife Foundation. Angela Calabrese Barton, MSU professor of teacher education, and Scott Calabrese Barton, associate professor in the Chemical Engineering and Materials Science department at MSU, co-direct the program in partnership with the Boys and Girls Club of Lansing. The program is one of only five nationwide to be recognized for its approach to youth development.

4. There was no public participation on issues germane to the agenda.
5. Personnel Actions

Provost Wilcox presented the following personnel actions:

Sang, Tze-Lan, AY—Professor, Department of Linguistics, Germanic, Slavic, Asian and African Languages, \$90,000, with Tenure, effective January 1, 2013.

Basso, Bruno, AY—Associate Professor, Department of Geological Sciences; Kellogg Biological Station, \$110,000, with Tenure, effective August 22, 2012.

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

Provost Wilcox said that Professor Sang has been at the University of Oregon since 1996.

Provost Wilcox said that Professor Basso was an Associate Professor at the University of Basilicata with research interests that include spatial variability of soil and water management and conservation.

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

President Simon presented the following personnel actions:

Poston, Fred L, AN—Vice President and Treasurer, Vice President for Finance, Operations and Treasurer and Professor, Department of Entomology, for a change in title to Special Advisor to the President and Dean, College of Agriculture and Natural Resources, effective January 1, 2013.

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

President Simon said that the College of Agriculture and Natural Resources is extraordinarily important to MSU and requires a special combination of leadership skills. The search process for a new dean did not yield a candidate with the leadership skills required to move the College forward and sustain its position as one of the leading colleges of agriculture and natural resources in the country, if not the world. Vice President Poston, who served as dean at the College before becoming a vice president, agreed to take on the role at this critical time. President Simon expressed her confidence in Dr. Poston's ability to continue to strengthen the College.

Provost Wilcox noted that there was a strong consensus within the College Advisory Committee that Vice President Poston would be the preferred leader for the college.

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

Beekman, William, AN—Secretary of the Board of Trustees and Executive Assistant to the President, Office of the Board of Trustees and Office of the President, for a change in title to Vice President and Secretary of the Board of Trustees, effective October 26, 2012.

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

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

6. Gifts, Grants, and Contracts

Vice President Hsu introduced Dr. Elizabeth Simmons, Dean of the Lyman Briggs College. Dr. Simmons made a presentation to the Board on MSU's role in the discovery of the Higgs Boson. (Appendix A)

7. Finance Committee

Trustee Breslin presented the Trustee Finance Committee Report and recommendations.

A. The 2013-14 Appropriation Request

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

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

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

B. New Investment Manager—Telegraph Hill Partners

It was recommended that the Board of Trustees select Telegraph Hill Partners as an investment manager.

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

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

C. New Investment Manager—Gardner Russo & Gardner

It was recommended that the Board of Trustees select Gardner Russo & Gardner as an investment manager.

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

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

D. New Investment Manager—Acadian Asset Management LLC

It was recommended that the Board of Trustees select Acadian Asset Management LLC as an investment manager.

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

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

E. Authorization to Plan—MSU Union—North Neighborhood Engagement Center and Multicultural Center

It was recommended that the Board of Trustees authorize the Administration to plan for the project entitled MSU Union—North Neighborhood Engagement Center and Multicultural Center.

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

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

- F. Project Approval—Authorization to Proceed—Botany Greenhouses—Demolition (footprint change)

It was recommended that the Board of Trustees waive any requirement under Board Policy 02-06-01 and that the Administration obtain authorization to plan from the Board for the project entitled Botany Greenhouses—Demolition; and

It was recommended that the Board of Trustees authorize the Administration to proceed with modifications which will result in a change to the campus footprint.

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

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

- G. Project Approval—Authorization to Proceed—Duffy Daugherty Football Practice Field—Construct Filming Tower (footprint change)

It was recommended that the Board of Trustees authorize the Administration to proceed with construction that will result in a change to the campus footprint for the project entitled Duffy Daugherty Football Practice Field—Construct Filming Tower.

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

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

- H. Project Approval—Authorization to Proceed—Brody Complex—Utility Improvements—Phase V

It was recommended that the Board of Trustees authorize the Administration to proceed with the project entitled Brody Complex—Utility Improvements—Phase V, and to approve a budget of \$5,100,000.

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

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

- I. Project Approval—Authorization to Proceed—Reconstruct Bogue Street and Shaw Lane Intersection (including partial closure of Bogue Street) and Steam Distribution—Replace Steam Lines to Owen Graduate Hall

It was recommended that the Board of Trustees authorize the Administration to proceed with the project entitled Reconstruct Bogue Street and Shaw Lane Intersection (including partial closure of Bogue Street) and Steam Distribution—Replace Steam Lines to Owen Graduate Hall, and to approve a budget of \$6,800,000.

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

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

- J. Project Approval—Authorization to Proceed—Facility for Rare Isotope Beams—New High Bay

It was recommended that the Board of Trustees authorize the Administration to proceed with the project entitled Facility for Rare Isotope Beams—New High Bay, and to approve a budget of \$15,500,000.

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

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

## 8. Policy Committee

Trustee Byrum presented the Trustee Policy Committee Report and recommendations.

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

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

Scott Romney, Esq., for a term of three years, commencing January 1, 2013, and ending December 31, 2015.

Stacy Erwin Oakes, Esq., for a term of three years, commencing January 1, 2013, and ending December 31, 2015.

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

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

- B. Revision of Ordinances 15, Disorderly Assemblages or Conduct, and 47, Obstructing Official Business

It was recommended to the Board of Trustees that, effective November 1, 2012, University Ordinances 15.00 and 47.00 be amended as indicated, including changes to Ordinances 15.01, 15.02, 15.03 and 15.05 and the addition of new Ordinance 47.02. (Appendix B)

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

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

- C. Approval of Contract Terms: *Piezonix, LLC*

It was recommended to the Board of Trustees that it approve the execution of an option agreement with Piezonix, LLC, consistent with earlier public notice given at a Board meeting and with the "Option Agreement Term Sheet" presented to the Board. (Appendix C)

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

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

9. Audit Committee

Trustee Perles presented the Trustee Audit Committee Report and recommendations.

- A. Acceptance of the audited financial statements for the year ended June 30, 2012.



It was recommended that the Board of Trustees accept the audited statements for the year ended June 30, 2012.

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

Trustee Perles said that the University received an unqualified opinion from the auditors, which indicates that MSU followed all accounting rules appropriately and that the financial reports are an accurate representation of MSU's financial position as of June 30, 2012.

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

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

#### 10. Trustees Comments

Trustee Ferguson said that Vice President Poston has been an integral part of MSU for many years and will be an exceptional leader for the College of Agriculture and Natural Resources.

Trustee Owen said that the College of Agriculture and Natural Resources is fortunate to have Vice President Poston returning as Dean.

Trustee Lyons said that he has received much positive feedback from the MSU community regarding Vice President Poston returning to the College of Agriculture and Natural Resources.

Trustee Breslin thanked Vice President Poston and wished him well in his role as Dean of the College of Agriculture and Natural Resources.

Trustee Byrum thanked Dean Elizabeth Simmons for her research presentation. Trustee Byrum said that the Bott Building for Nursing and the Eli and Edythe Broad Art Museum dedications would be taking place in the coming weeks and urged folks to attend. Trustee Byrum noted that former MSU Professor Lester Manderscheid passed away and that a memorial service for him would be held on October 27, 2012.

Trustee Woodard congratulated Secretary Beekman on the change in his title.

Trustee Perles wished Vice President Poston well as he returns to the College of Agriculture and Natural Resources and congratulated Secretary Beekman on the title change.

Trustee Foster thanked ASMSU for its efforts in the Getting Out the Vote campaign.

11. There was no public participation on other issues.
12. Request to Adjourn

On a motion by Trustee Ferguson, supported by Trustee Owen, **THE BOARD VOTED to adjourn** at 10:45 a.m.

Respectfully submitted,



William R. Beekman  
Secretary of the Board of Trustees

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

**OCTOBER 26, 2012**

**ELIZABETH H. SIMMONS**

**LYMAN BRIGGS COLLEGE**

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

## Brief Biography of Elizabeth H. Simmons

Dr. Elizabeth H. Simmons is Professor of Physics in the Michigan State University Department of Physics and Astronomy and Dean of MSU's Lyman Briggs College, a four-year residential undergraduate science college that focuses on the study of science in its historical, philosophical, and sociological context. Simmons is a particle theorist, whose research focuses on the origins of the masses of the elementary subatomic particles, especially the top quark. She is currently studying how physics beyond the Standard Model might manifest itself in experiments in progress at the Large Hadron Collider. She enjoys teaching physics courses at all levels, from introductory to graduate, and is presently teaching mathematical physics to juniors in physics, astronomy, and engineering. Part of her mission as an educator is to encourage students from groups under-represented in physics to consider studies and careers in the physical sciences. After completing her undergraduate degree in physics at Harvard University *magna cum laude* and being inducted into Phi Beta Kappa, Simmons earned an M.Phil. in physics at Cambridge University as a Churchill Scholar. She returned to Harvard for her doctoral degree and postdoctoral fellowship, and then spent a decade as a professor at Boston University before joining the MSU faculty in summer 2003. She is a Fellow of the AAAS, a Fellow and Outstanding Referee of the American Physical Society, a General Member of the Aspen Center for Physics, and a Trustee of Summer Science Program, Inc. She won the ACE Michigan Network's Distinguished Woman in Higher Education Leadership Award in 2005 and served as a US Delegate to the International Conference on Women in Physics in 2008 (Korea) and 2011 (South Africa).

# Newsflash: CERN Reports on the Higgs

**What is the Higgs Boson?  
What did CERN observe?  
What comes next?**

October 26,  
2012

Elizabeth H. Simmons  
Michigan State University

**50** ASPEN  
CENTER  
FOR  
PHYSICS

## Subatomic Structure

atom  $\sim 10^{-8}$  cm

nucleus  $\sim 10^{-12}$  cm

electron  $< 10^{-16}$  cm

proton (neutron)  $\sim 10^{-13}$  cm

quark  $< 10^{-16}$  cm

**FRIB**

**LHC**

**ETH**  
Edge of the Technological Universe  
Faculty Institute of Technology Zurich

# Colliders Seeking Answers



Fermilab  
Tevatron  
(1983-2011)

**16 MSU faculty  
Involved,  
(also postdocs,  
students...)**

CERN LHC (2008 - )



## THREE GENERATIONS OF MATTER

	I	II	III	CHARGE:	
MATTER CONSTITUENTS: FERMIONS	2.75 UP	1300 CHARM	178000 TOP	$\leftarrow \frac{2}{3}$	91188 $Z^0$
	6 DOWN	1110 STRANGE	4500 BOTTOM	$\leftarrow -\frac{1}{3}$	80430 $W^{\pm}/W$
	0.511 ELECTRON	105.7 MUON	1777 TAU	$\leftarrow -1$	$< 10^{-36}$ PHOTON
LEPTONS	$< 3 \cdot 10^{-6}$ NEUTRINO	$< 0.19$ NEUTRINO	$< 18.2$ NEUTRINO	$\leftarrow 0$	theory: 0 GLUON
					FORCE CARRIERS: BOSONS

ALL MASSES IN MEV;  
ANIMAL MASSES  
SCALE WITH  
PARTICLE MASSES

## The Standard Model fundamental particle zoo

### MYSTERIES

**Flavor:**  
Why do similar  
fermions have  
different  
masses?

**Electroweak:**  
Why are the  
W & Z bosons  
heavy while the  
photon is  
massless?



## A variety of masses:!

The Higgs field would form a uniform background within the universe. Each particle would interact with the Higgs boson to a different degree.!

The more strongly a particle interacted with the Higgs, the more mass it would gain and the more inertia it would display!

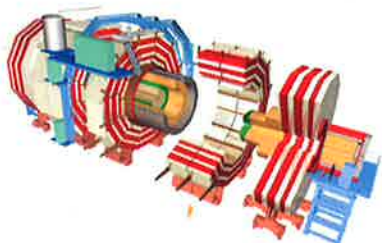
## Proton-Proton Collisions

<b>Proton-Proton</b>	2835 bunch/beam
<b>Protons/bunch</b>	$10^{11}$
<b>Beam energy</b>	7 TeV ( $7 \times 10^{12}$ eV)
<b>Luminosity</b>	$10^{34}$ cm <sup>-2</sup> s <sup>-1</sup>
<b>Crossing rate</b>	40 MHz
<b>Collisions <math>\approx</math></b>	$10^7 - 10^8$ Hz

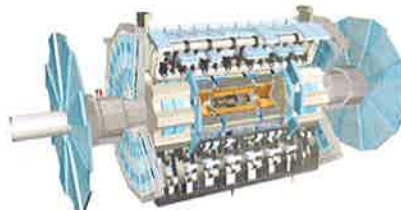
**Selection of 1 in  
10,000,000,000,000**

11/15/2010
The First LHC Data
Bing Zhou!
2

# 2012 Results from Two LHC Experiments



**CMS** Spokesperson  
Joe Incandela

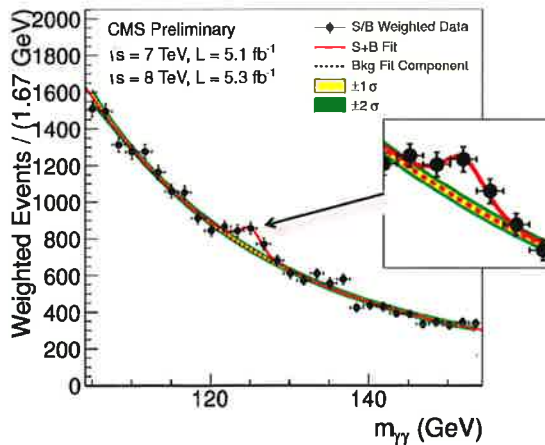


**ATLAS**  
Spokesperson  
Fabiola Gianotti



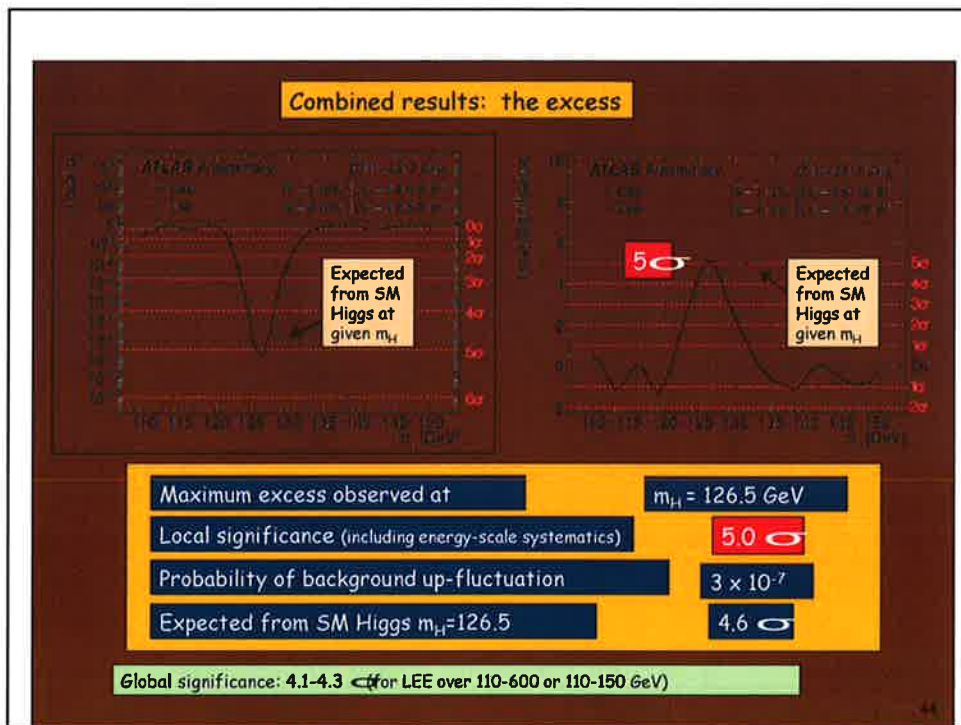
## S/B Weighted Mass Distribution

- Sum of mass distributions for each event class, weighted by S/B
- B is integral of background model over a constant signal fraction interval



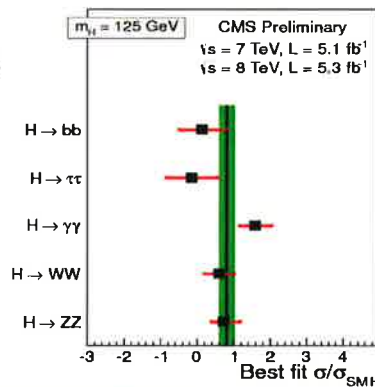
July 4<sup>th</sup> 2012 The Status of the Higgs Search - J. Incandela for the CMS COLLAB





## What Comes Next?

- This data is just our first glimpse of an exciting and long-awaited particle. LHC will triple its data set by year's end.
- Priorities include measuring the Higgs in as many different decays and by as many methods as possible.
- We want to know how "standard" the observed Higgs boson is and whether there are hints of exciting new particles yet to come.



theguardian  
 Higgs boson discovery: now the real work begins

EXHIBIT A – Copy marked to show changes

## 15.00 DISORDERLY ASSEMBLAGES OR CONDUCT

- .01 No person shall, without authorization, assemble together anywhere on the campus for the purpose of creating any excessive noise or any disturbance, riot, or raid, ~~or disruption,~~ or assemble in a manner which obstructs the free movement of persons about the campus or the free and normal use of University buildings and facilities; or which prevents or obstructs the normal operations of the University.
- .02 No person shall ~~disrupt~~ obstruct, hinder, or impede the normal operation of any ~~properly authorized~~ class, laboratory, seminar, examination, field trip, or other educational activity of the University.
- .03 No person shall ~~disrupt~~ obstruct, hinder, or impede the normal use or operation of any campus building or area which has been assigned or scheduled ~~by appropriate means~~ for educational or extracurricular activities. ~~I, includeding within,~~ but not limited to, the foregoing, is the use of appropriate buildings or areas for dramatic or musical presentations, lectures, athletic events, military exercises, orientation meetings, ~~registration,~~ commencement ceremonies, and placement activities.
- .05 No person shall obstruct, hinder, or impede ~~disrupt~~ the normal operations ~~activity or~~ ~~moles~~ the property of any person, firm, or agency, or the use of its property, while that person, firm, or agency is providing a service or carrying out service, ~~an~~ activity or agreement for or with the University.

## 47.00 OBSTRUCTING OFFICIAL BUSINESS

- .02 No person shall hinder or obstruct any traffic officer, parking officer, or other subordinate officer appointed by the Police Chief under Ordinance 4 in the performance of that officer's duties, or aid or abet any person doing the same.

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- .03 No person shall obstruct, hinder, or impede the normal use or operation of any campus building or area which has been assigned or scheduled for educational or extracurricular activities, including, but not limited to, dramatic or musical presentations, lectures, athletic events, military exercises, orientation meetings, commencement ceremonies, and placement activities.
- .05 No person shall obstruct, hinder, or impede the normal operations of any person, firm, or agency, or the use of its property, while that person, firm, or agency is providing a service or carrying out an activity or agreement for or with the University.

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**OPTION AGREEMENT TERM SHEET**

**Party:** Piezonix, LLC  
**License:** Option on patent rights  
**Term:** Two years from the effective date of the agreement  
**Technology:** MSU Invention Disclosure Nos.:

MSU invention disclosure TEC2012-0029 entitled "Self-Powered Strain-Gauge based on Ultra-Linear Hot-Electron Injection on a Piezo-Floating-Gate Sensor";  
MSU invention disclosure TEC2009-0014 entitled "Self-Powered Strain-Rate Monitors Using Piezo-Floating-Gate Injectors"; and  
MSU invention disclosure TEC2006-0098 entitled "Method and Apparatus for Autonomous Self-Powered Integrated Piezo-Floating Gate Sensors".

U.S. Patents:

Provisional Patent Serial No. 61/602,247 filed Feb. 23, 2012 "Self-Powered Strain Gauge"; US 7,757,565 "Self-Powered Sensor" and US 8,056,420 "Self-Powered Sensor".

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

**Technology's Potential Commercial Utilization:**

Embedded strain monitoring.

**Payment Terms:**

\$2,000 option fee.

**Services Provided:**

By MSU to Piezonix, LLC: None.

By Piezonix, LLC to MSU: None.

**Organization Type:**

Maryland limited liability company based in Michigan.

**Personnel interest:**

Dr. Shantanu Chakrabartty, an Associate Professor in the Department of Electrical and Computer Engineering, and his family own or have options to buy an equity interest of more than 1% of the company. Dr. Chakrabartty is also a member in Piezonix, LLC.