



**Formal Session of the Board of Trustees
February 26, 2021
9:00 a.m. – 11:00 a.m.
ATDC Conference Room
Public via ZOOM Webinar**

- I. Call to Order**
Brenda Ryan, Chair
- II. Roll Call**
Sarah Schulte, Secretary
- III. Confirm Agenda**
Brenda Ryan, Chair
- IV. Opening Remarks**
 - A. Opening Remarks of the Board Chair**
Brenda Ryan, Chair
 - B. Opening Remarks of the University President**
Richard Koubek, President
- V. Public Comment Period**
- VI. Committee Reports**
 - A. Audit and Finance Committee**
Jeff Littmann, Committee Chair
- VII. Consent Agenda**
 - A. Approval of Minutes**
 - B. Degrees in Course**
 - C. Resignations, Retirements, and Off Payroll**
 - D. Fundraising Productivity Report**

VIII. Action and Discussion Items

A. Employee Recognition

Brenda Ryan, Chair

B. Proposal for a Bachelor of Arts Degree in Chemistry

Jackie Huntoon, Provost

C. Exclusion Resolution For Department of Defense

D. Resolution to Approve External Auditor

IX. Reports

A. Wastewater Monitoring Program

Jennifer Becker, Associate Professor, Civil and Environmental Engineering

B. NASA's BIG Idea Challenge Presentation

Paul van Susante, Assistant Professor, Mechanical Engineering-Engineering Mechanics and Marcello Guadagno, PhD student and student project lead

C. Undergraduate Student Government

Larkin Hooker-Moericke, President

D. Graduate Student Government

Nathan Ford, President

E. University Senate

Samuel Sweitz, President

X. Informational Items

A. Analysis of Investments

B. Research & Sponsored Programs

C. Advancement & Alumni Relations

D. Media Coverage

E. Employee Safety Statistics

F. Disposal of Surplus Property Report

XI. Other Business

XII. Date for Next Formal Meeting: April 30, 2021

XIII. Adjourn

- I. CALL TO ORDER**
- II. ROLL CALL**
- III. APPROVAL OF AGENDA**
- IV. OPENING REMARKS**
- V. PUBLIC COMMENT PERIOD**
- VI. COMMITTEE REPORTS**
 - A. Audit and Finance Committee

VII. CONSENT AGENDA

These are routine matters that generally do not require discussion or debate. Any Board member can remove any consent item from the agenda by request. They will be considered as one resolution.

- A. Approval of Minutes
- B. Degrees In Course
- C. Resignations, Retirements, and Off Payroll
- D. Fundraising Productivity Report

VIII. B. DEGREES IN COURSE

Included herein are candidate who have been recommended by their respective faculties and have been certified by the Registrar as having fulfilled all the requirements of their degrees as specified

RECOMMENDATION: That the Board of Trustees approves the awarding of the degrees as specified, to each of the candidates listed, and offer congratulations.



MEMORANDUM

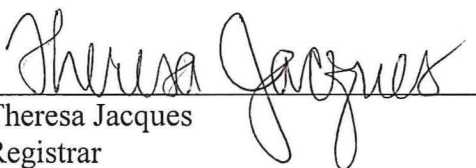
To: Dr. Richard J. Koubek
Office of the President

From: Theresa Jacques
Registrar's Office

Date: February 3, 2021

Subject: Candidates for Degrees – Conferral Term 202008

The attached list of candidates for degrees, beginning with Olivia Ann Frantti and ending with Xuewei Cao is submitted for the granting of the appropriate degrees by the Board of Trustees. I certify that these candidates meet all requirements for their respective degrees and that the names have been submitted to and have received the approval of the faculty from their major department.


Theresa Jacques
Registrar

TJ: kph

Michigan Technological University
Degrees Awarded for Conferral Term 202008

Michigan Technological University Registrar's Office, Prepared February 3, 2021

Associate of Arts in Humanities

- Olivia Ann Frantti

Bachelor of Arts in Communication, Culture, and Media

- Allison Elizabeth Maple
- Haley Mackenzie Galindo - Cum Laude
- Isaac J Elston

Bachelor of Arts in English

- Aemili Olivia Lipzinski - Cum Laude

Bachelor of Arts in History

- Brooke Shania Batterson

Bachelor of Arts in Scientific and Technical Communication

- Whitney Marie Johnson

Bachelor of Science in Accounting

- Bradley G Veale
- Chase C Keilitz
- Haille Brianne Carroll
- Joseph Richard Anderson - Magna Cum Laude
- Kathleen Rebecca Schouten - Cum Laude
- Ricky John Greub - Magna Cum Laude

Bachelor of Science in Applied Ecology and Environmental Sciences

- Anna M Ellis
- Denise Noelle Rauschendorfer - Magna Cum Laude
- Sienna Skye Falzetta - Cum Laude

Bachelor of Science in Audio Production and Technology

- Andrew Tyler Stockero - Magna Cum Laude
- David Eric Peterson
- Madeleine Marie Hunt - Cum Laude

Bachelor of Science in Biochemistry and Molecular Biology

- Brenna Marie Rosso
- Sarah Elizabeth Craig
- Stephanie Paige Bean
- Tessa Elizanne Steenwinkel - Summa Cum Laude
- Tristan Rhys Bonifield

Bachelor of Science in Bioinformatics

- Joshua Louis Bocker

Bachelor of Science in Biological Sciences

- Eric Robert Dobson
- Gus Raymond Hetcher
- Jessica Elizabeth Paling - Cum Laude
- Samantha Leigh Jahfetson
- Zoé Marie LaLonde

Bachelor of Science in Biomedical Engineering

- Cecelia Cassandra Attwell
- Cole Michael Enstad
- Erin Marie Murphy - Magna Cum Laude

Bachelor of Science in Chemical Engineering

- Abigail Christine Hendrix - Summa Cum Laude
- Benjamin David McKenzie - Cum Laude
- Collin J Mitchell - Cum Laude
- Patrick Gerard Klym
- Timothy Louis Schulz - Magna Cum Laude

- Zachary James Angst

Bachelor of Science in Chemistry

- Brett Hunter Otto

Bachelor of Science in Civil Engineering

- Adam Charles Cerney
- Austin Edward Kerby
- Carly Maria Bulleit - Cum Laude
- Caroline Ann Cotter
- Cole W Ruohonen - Cum Laude
- Cyle R Kugelard
- Daniel Scott Jones
- Danielle Joyce Lautenbach
- Derrick D Sullivan
- Jack Matthew Williams
- James Robert Huey
- Jared Allan Dietrich Thiele - Cum Laude
- Kagen Lance Griffith - Magna Cum Laude
- Katelynn C Palmcook - Magna Cum Laude
- LeAnn Nicole Brinker - Magna Cum Laude
- Lucas Nolan Marion
- Maria L Carpita - Cum Laude
- Meng Wu
- Ryan Thomas Brown
- Shelby Rose VanAssche
- Sinwon Lee - Cum Laude
- Stephen John Anderson
- Travis R Havercamp - Cum Laude
- Tye Arthur Pennala
- Zachery Scott Cole

Bachelor of Science in Computer Engineering

- Aaron Thomas Filip - Cum Laude
- Alexander J Grant
- Alexander Jacob Israels
- Austin Arthur Braley
- Brendan Thomas Heath
- Brendan William Zondlak
- Dylinh Minh Nguyen - Magna Cum Laude
- Gina Kristy Ennis
- Kurtis Anthony Alessi
- Logan Weir Wilkerson - Magna Cum Laude
- Malik Shamarr Busch
- Matthew John Stawicki - Magna Cum Laude
- Robert Caleb Benedict
- Roge' Ryan Kuntz - Magna Cum Laude
- Zachary Thomas Smith

Bachelor of Science in Computer Network and System Administration

- Austin Jay Walhof - Cum Laude
- Harrison O Parker - Cum Laude
- Michael Saad Dabish

Bachelor of Science in Computer Science

- Abriana Joy Ingrassia
- Andrew Michael Menzl - Magna Cum Laude
- Andrew Tyler Stockero - Magna Cum Laude
- Brendan Lee Beecham
- Chad Tessin Falkenberg
- Christopher Dale Ward
- Giulio T Vario - Magna Cum Laude
- Griffin Patrick Ferrell
- Jacob H Suidgeest - Summa Cum Laude
- James Jace Lutey

- Jordan D Paletta
- Joshua David Ryan
- Katlynn Marie Stone
- Kyla A Kane-Maystead - Magna Cum Laude
- Lucus John Bauder
- Marcus David Scese
- Rian Joseph Kwarcianny
- Tyler Dewayne Arthur - Magna Cum Laude
- William Cully Collicott - Magna Cum Laude
- William Ernest Kirkconnell
- Yanhao Chen
- Zachary Moritz Johnson - Cum Laude

Bachelor of Science in Construction Management

- Derek J Pietila
- Richard Matthew Juntunen
- Taylor Ray Pelton

Bachelor of Science in Electrical Engineering

- Adam Jeffery Kausch
- Alexander Orion Kellogg - Magna Cum Laude
- Andrew J Vincent - Cum Laude
- Andrew N Brown
- Brett E Annelin
- Christopher Daniel Bousho
- Christopher Thomas Rye - Cum Laude
- Connor William Neaton - Cum Laude
- Darin Paul Shillair
- Ethan J Baker - Cum Laude
- Gracelyn Rose Rezmer - Cum Laude
- Jacob Michael Sauter
- John Thomas Zinser
- Joseph Dell'Anno

- Josh William Perrine - Summa Cum Laude
- Joshua Lee Turner - Cum Laude
- Joshua Morgan Borkowski
- Justin Alex Mentink
- Justin Leland Hanna
- Kaylie Hope Anderson - Cum Laude
- Lia S Anderson
- Nathan Andrew Sukaria
- Nicholas James Aird
- Nicole M Jensen
- Paul Michael Kamps - Magna Cum Laude
- Paul Todd Allen - Cum Laude
- Sam Stinson Nowosad
- Samantha Marie Cross Fincannon
- Trevor Michael Dally - Magna Cum Laude
- William Charles Ciuk
- William Conrad Turkovich

Bachelor of Science in Electrical Engineering Technology

- Robert Ulysses Webster
- William E Kangas
- Zarek Niilo Pirkola - Cum Laude

Bachelor of Science in Engineering Management

- Aaron Bradley Huard
- Andrea Kathleen Zubke
- Bernadette Spezia
- Evan James Pietila
- Joseph Alan Rigling - Cum Laude
- Taylor R Anderson

Bachelor of Science in Environmental Engineering

- Alexander Grant Julson

- Andrew Louis Tyckoski
- Andrew Michael Medaugh
- Benjamin Carl Reuss
- Clint E Campbell
- Emma Isabella Wingard
- Mary Elizabeth Jarvis - Magna Cum Laude
- Maya Elizabeth Chappell - Cum Laude
- Tyler Keith Lemahieu - Summa Cum Laude
- William Joseph Bailey
- Yifan Zhang

Bachelor of Science in Exercise Science

- Alexa E Destrampe - Cum Laude
- Johnathan Christopher Willey
- Sasha C Rubello - Cum Laude

Bachelor of Science in Finance

- Hannah Maris Leask
- Jake Ryan Holmes - Magna Cum Laude
- Mickayla L Brandly - Magna Cum Laude
- Reid Douglas-Wylie Hamar - Magna Cum Laude
- Timothy Patrick Scullion
- Trevor Clayton Salata - Magna Cum Laude

Bachelor of Science in Forestry

- Alexander T Morey
- Austin John Corp
- Benjamin John Nicolson
- Evan John Roubal
- Morgan Thomas Veurink

Bachelor of Science in Geological Engineering

- Abigail Pandora Friedl - Cum Laude
- Dustin R Helmer - Magna Cum Laude

Bachelor of Science in Human Biology

- Allysa Hope Meinburg

Bachelor of Science in Management

- Bailey Marie Raffaelli
- Emily Elizabeth Lowe
- Eric Matthew Hildebrand
- John Christian Hammel
- Kyeongmin Kang
- Maxx David James Fredrickson
- Morgan Elizabeth Farrell

Bachelor of Science in Management Information Systems

- Dakota K Haapala
- Ian M Cox
- Kieran Thomas Carl Schimmel
- Matthew J Soth
- Viasana Lavanya Rajesh Kumar

Bachelor of Science in Marketing

- Cecilia Maria Arce
- Jennifer L D'Luge
- Sebastian Lozano Castillo
- Trent Matthew Lutzke

Bachelor of Science in Materials Science and Engineering

- Allan Erskine Terry - Cum Laude
- Benjamin John Rigling
- Gregory Maxwell Beaudoin

- Jacob Daniel Beavers - Summa Cum Laude
- Jonah Joseph Jarczewski
- Joshua Hale Jay - Cum Laude
- Matthew Seth Carl Hasbrouck - Summa Cum Laude
- Nicholas A Richards
- Sean Michael O'Connor

Bachelor of Science in Mathematics

- Abigail Christine Hendrix - Summa Cum Laude
- Benjamin Lewis Chizmar
- Matthew Jay Wilder - Summa Cum Laude
- Shaun M Burriss - Summa Cum Laude

Bachelor of Science in Mechanical Engineering

- Abigail Frances Kirk
- Adam C Kurdelski - Magna Cum Laude
- Adam John Kallioinen
- Aidan Joseph Lynch
- Alex James Ashley
- Alexander Joseph Basaj
- Alexander Robert Tuomi
- Amanda Moya
- Andrew Charles Wells
- Andrew Paul Lewinski
- Annalisa Faith Wiesner - Magna Cum Laude
- Avery Ray Mosley
- Benjamin C Eddy
- Benjamin David Lutz - Summa Cum Laude
- Benjamin Douglas Spiller
- Blake Edward Hereau
- Braeden William Lawrence - Cum Laude
- Brandon Austin Spawn - Cum Laude
- Brandon Noah Simone

- Brandon Paul Bomireto
- Bryce Aaron Stallworth
- Cade Arthur Ferguson
- Camden Alexander Maxey
- Carter Allen Paprocki
- Chase Allen Scheel
- Chase Thomas Gregory
- Chelsea Leigh Morin
- Christian Todd Choate
- Christopher Woodford Grande
- Cole Frank Dalquist
- Connor Galen Rowley
- Corbin James Johnson
- Donald L Marwin
- Duncan Michael Lackner - Magna Cum Laude
- Dylan Martin Jensen - Cum Laude
- Gordon Austin Scheerer
- Griffin James Carpenter
- Harrison David Mills - Cum Laude
- Harrison Edward Woelfel
- Hunter Vincent Richards
- Jackson Lyle Hover
- Jacob Christopher Paulsen
- Jacob Crowther Luikart
- Jacob Henry Knott
- Jacob Robert Ehle
- Jake Riley Macey - Cum Laude
- Jared Michael Langdon
- Jared Robert Clabots
- Jason James Looker
- Jenna Marie Hoyer
- Jesse James Boehm
- Jian Chen

- Job Philip Mayer - Cum Laude
- Jordan L Woldt
- Joseph M DeMaria
- Joseph R Outinen
- Josephine Ann Fiore - Magna Cum Laude
- Joshua Allen Penrose
- Joshua Michael Kalkman
- Kagan Walker Govek
- Kyle Jordan Hannah
- Kyrstin May Schmidt - Cum Laude
- Larry Richard Lamb
- Leah Olivia Arnt
- Loryn Rene Zeno - Magna Cum Laude
- Lucas Matthew Piekarski - Cum Laude
- Marcy E Fries
- Matthew Joseph Tracey - Cum Laude
- Matthew Paul Brownson - Cum Laude
- Matthew Seth Carl Hasbrouck - Summa Cum Laude
- Michael James Hubbard
- Michael William Rosenquist - Cum Laude
- Mitchell Gene Kemppainen
- Mustafa Hussain Turi
- Nathan Dean Isley
- Nathan Joseph Beining
- Peter Ethan Lund
- Rachael Louise Violassi
- Riley Lyman Bretting - Cum Laude
- Ross Tyler Rantanen
- Ryan Anthony Mattson
- Sam Alexander Johnson
- Samantha Elizabeth Evans
- Samuel C Bulthuis - Cum Laude
- Samuel David Vanderlin

- Samuel Douglass Gaffney
- Sawyer Braun - Magna Cum Laude
- Shane Timothy Marquardt
- Spencer William Reed
- Theo Conrad Wachowski - Magna Cum Laude
- Todd A Kiilunen
- Travis J Seagmen
- Trevor A Krygier
- Tyler E Strauss - Cum Laude
- Tyler James White - Summa Cum Laude
- Walter Joseph Mistak
- William Hamilton Ohm
- Xiuyuan Wu
- Xochitl Alejandra Villezcas
- Yixiong Xiao
- Zachary David Mans

Bachelor of Science in Mechanical Engineering Technology

- Andrew Carl Johnson
- Ashley Lea Chapa
- Avery Joseph Yarbrough
- Brook Robert Phillips
- Chandler Louis Zent
- Dylan Wesley Erickson
- Eric D Pederson - Magna Cum Laude
- Isai Jonatan Hudy-Velasco
- Jake Brandon Ellenich
- Kurt John Booms - Summa Cum Laude
- Logan Scott Mills
- Maya D Hawthorne
- Nathan David Pennala
- Nicholas A Morauske
- Peter Stefan Rowe

- Ross L Samuelson
- Skyler Ian VanderBoegh
- Walter Hendrikus Friesel
- William Korman Norton

Bachelor of Science in Medical Laboratory Science

- Alicia Rae Brennan
- Kailee Marie Kathryn Kovach

Bachelor of Science in Psychology

- Danielle Pamela Bjorkman
- Hannah Marie Kariniemi - Magna Cum Laude

Bachelor of Science in Scientific and Technical Communication

- Evan Andrew Monko
- Marcelina Kiszkiel

Bachelor of Science in Social Sciences

- Bryauna Elizabeth Jones

Bachelor of Science in Software Engineering

- Samuel J Stevenson
- Tyler James Marenger - Summa Cum Laude

Bachelor of Science in Sports and Fitness Management

- Jordan Scott Ferguson
- Ryan Douglas Howery

Bachelor of Science in Statistics

- Drew T Baxter - Magna Cum Laude

Bachelor of Science in Surveying Engineering

- Clayton James Hildebrand

Bachelor of Science in Theatre and Entertainment Technology

- Samuel C Bulthuis - Cum Laude

Bachelor of Science in Wildlife Ecology and Management

- Andrea Rose Wilkey
- Dana Catherine Heikkila
- Dana Jolyn Neufeld
- Jacob Alan DeVries - Summa Cum Laude
- Jade Isis Thompson

Doctor of Philosophy in Biomedical Engineering

- Samerender Nagam Hanumantharao

Doctor of Philosophy in Chemical Engineering

- Kaled Mohamed Bentaher
- Raisa Carmen Andeme Ela
- Sharath Kumar Ankathi
- Yuesheng Gao
- Zainab Ibrahim M Alshoug

Doctor of Philosophy in Chemistry

- Vagarshak Begoyan

Doctor of Philosophy in Civil Engineering

- Chaitanya Ganesh Bhat
- Sergio Miguel Lopez Ramirez

Doctor of Philosophy in Computer Engineering

- Zhiqiang Zhao

Doctor of Philosophy in Computer Science

- Briana Christina Bettin

Doctor of Philosophy in Electrical Engineering

- Bin Zhou
- Koji Yamashita
- Kunle Titus Olutomilayo

Doctor of Philosophy in Engineering - Computational Science and Engineering

- Leo Cornelius Ureel

Doctor of Philosophy in Environmental and Energy Policy

- Bethel Worku Tarekegne
- Hongmei Lu
- Roland Oduro Ofori

Doctor of Philosophy in Forest Science

- Michelle Brill

Doctor of Philosophy in Geological Engineering

- FNU Chandan Kumar

Doctor of Philosophy in Geophysics

- Haitao Cao

Doctor of Philosophy in Materials Science and Engineering

- Alejandra Itzel Almanza Perales
- Di Huang
- Yang Yang
- Zachary John Morgan

Doctor of Philosophy in Mechanical Engineering - Engineering Mechanics

- Jon Einar Furlich
- Joseph Eugene Oncken
- Mingyang Li
- Xin Wang

Doctor of Philosophy in Rhetoric, Theory and Culture

- Geethu Madeckal Jose
- William Emmett De Herder

Master of Business Administr. in Business Administration

- Allison Kay Berryman
- Andrew John Manty

Master of Engineering in Engineering

- Hsiang En Kung

Master of Forestry in Forestry

- Casey Reid Sigg
- Seth Darius Myers

Master of Geographic Info Sci in Geographic Information Science

- Tony Collin Lammers

Master of Science in Accounting

- Chen Zhang

Master of Science in Applied Ecology

- Jennifer Morgan Klemm

Master of Science in Applied Science Education

- Charles Rudolph Palosaari
- Kaitlin Jo Rich
- Kevin Thomas Knack
- Lori Ann Wisniewski
- Megan Marie Birdwell
- Morgan Minisee
- Tamala Mae Sebring
- Tia Renae Hohler

Master of Science in Applied Statistics

- Amanda M Busha
- Ambrose Xavier
- Heather Klussendorf
- Justin Youngil Park
- Roy Llewellyn
- Thomas J Childers
- Yunzhu Zhao

Master of Science in Biological Sciences

- Aprille Rose Hibbard
- Basirat Tolulope Shittu
- Xinqian Chen

Master of Science in Biomedical Engineering

- Dong Woo Han

Master of Science in Chemistry

- Parya Siahcheshm

Master of Science in Civil Engineering

- Brandi A Rajala
- Qinjie Lyu
- Tania V Lopez
- Veronica I Lynch

Master of Science in Computer Science

- Andrew Lawrence Brusso
- Ann Elizabeth Ciesla
- Jinxiang Liu
- Kapil Dahal
- Noah Alexander Davis
- Prathyusha Sreedhara

- Sai Srinivas Bandrupalli
- Zheng Zhou

Master of Science in Cybersecurity

- Jonah Hans Schulte
- Vishnu Kamaraju

Master of Science in Data Science

- James Collins McNally
- Jonathon Edward Berman
- Prateek Goyal
- Tri Purnamasari

Master of Science in Electrical Engineering

- Abhimanyu Arjun Gadhave
- Ganesh Masagani
- Kyle James Heiden
- Neha Vijay Patil
- Swarnima Rajesh Pardeshi

Master of Science in Electrical and Computer Engineering

- Adesoji Tolulope Bello
- Jordan Daniel Anderson
- Manish Soni
- Roshan Thapa

Master of Science in Environmental Engineering

- Mahta Naziri Saeed

Master of Science in Forest Ecology and Management

- Liam Mcginnis Krause
- Veronica M Porter

Master of Science in Forest Molecular Genetics and Biotechnology

- Shallen Alies Gurtler

Master of Science in Geological Engineering

- Kelsey Anne Kirkland

Master of Science in Geology

- Claudia Buondonno
- Evan Robert Lanese
- Robert Matthew Booth
- Roberto Piemontese

Master of Science in Geophysics

- Adam Bautzmann
- Erdi Apatay

Master of Science in Health Informatics

- Lisa Ann Day
- Robert Verlyn Rollins
- Rukayat Bukola Adeosun

Master of Science in Materials Science and Engineering

- Bharath Lavu
- Shu Zhao

Master of Science in Mechanical Engineering

- Abhijit Krishna Kumar
- Adam Charles Mcjunkin
- Alexander James Shively
- Amit Vilas Patil
- Andrew Nathan Ramsey
- Ashwin Karthik Purushothaman
- Brandon T Narodzonek

- Brett Michael Close
- Cooper James Heyne Minehart
- Cora Jane Taylor
- Gaurav Santosh Gaikwad
- Gaurav Sudhakar Pawar
- James Hunter Van Linn
- John Gerald-Lachlan MacLean
- Jonathon Wood Lindfors
- Ketan Karkare
- Kevin Lawrence Essenmacher
- Manoj Dilip Dalvi
- Max Andrew Ellingson
- Nitish Malik
- Parag Balasaheb Nikam
- Parin Kaushik Shah
- Prateek Sameer Bhalla
- Raman Nain
- Reese William O'Mara
- Rushikesh Dilip Kulkarni
- Sai Prashanth Kumar
- Salil Sanjay Sule
- Shivom Kushwaha
- Shubham Rajesh Jain
- Someswar Voruganti
- Sudhachandra Masna
- Tyler James Miller
- Umamaheswar Puttur
- Venkata Ramana Kotha
- Venkata Siva Sai Manoj Pothugunti
- Vibhor Kumar Rajput
- Vikas Dilip Taware
- Zachary Jeremiah-Victor Cohen

Master of Science in Statistics

- Meida Wang
- Xuewei Cao

VII-C. RESIGNATIONS, RETIREMENTS, AND OFF PAYROLL

Attached is a report of resignations, retirements and off payroll which has been approved by the Board Treasurer and are included for her convenience in recommending acceptance by the Board.

RECOMMENDATION: That the Board of Trustees accepts the resignations, retirements, and confirms the off-payroll determinations.

BOARD OF TRUSTEES OFF-PAYROLL REPORT
(July 1, 2020 – January 23, 2021)

RETIRED

Name	Class	Department	Title	Most Recent Hire Date	Term Date
Nancy Bykkonen	Staff	Human Resources	Administrative Aide 7	03/20/2001	01/08/2021
Mary Friedrich	Faculty	Financial Services & Operations	Professor	09/07/1999	01/09/2021
Bonnie Gorman	Staff	Dean of Students Office	Dean of Students / Vice President of Student Affairs	11/11/1996	08/15/2020
Lynda Heinonen	Staff	Dean of Students Office	Administrative Assistant	04/24/1995	01/22/2021
Keith Lohman	Staff	Central Energy Plant Operator	Facilities Management	11/27/2000	01/08/2021
Lori Monette	Staff	Custodian	Sports & Recreation Operations	09/18/1983	12/10/2020
Gina Stevens	Staff	Departmental Coordinator	Social Sciences	08/21/1989	01/01/2021

OFF-PAYROLL

Name	Class	Department	Title	Most Recent Hire Date	Term Date
Cody Adkins	Staff	Enterprise Application Services	System Administrator	08/31/2014	12/11/2020
Hannah Albert	Staff	Wadsworth Hall Food Service	Food Service Helper	01/02/2017	01/05/2021
Amber Bennett	Staff	Center for Student Mental Health Wellbeing	Director	12/02/2013	01/22/2021
Lynett Cruickshank	Staff	Facilities Management	Custodian	08/05/2014	11/23/2020
William De Herder	Staff	Humanities	Assistant Director	08/31/2015	01/04/2021
Kelli Garrison	Staff	Center Student Mental Health Wellbeing	Clinical Counselor - Case Manager	10/19/2020	12/10/2020
Christine Houston	Staff	Career Services	Office Assistant 6	01/04/2016	01/16/2021
Gail Kotajarvi-Gerard	Staff	Transportation Services	Manager	06/18/2018	12/27/2020
Catherine Peters	Staff	Wadsworth Hall Food Service	Food Service Helper	10/05/2020	11/23/2020
Carolyn Richards	Staff	Provost Senior Vice President for Academic Affairs	Manager, Partner Engagement	10/01/2000	01/16/2021
Peter Rouleau	Staff	Facilities Management	Custodian	03/12/2018	12/01/2020
Jamie Schultz	Staff	Financial Services & Operations	Administrative Aide 7	08/27/2018	12/15/2020
Joseph Shannon	Staff	College Forest Resources & Environmental Sciences	Research Scientist	03/28/2011	12/31/2020
Beatrice Smith	Faculty	Humanities	Professor	08/09/2009	01/15/2021
Char Spruce	Staff	Sponsored Programs Office	Asst Sponsored Program Analyst	09/23/2019	01/02/2021

VII-D. FUNDRAISING PRODUCTIVITY REPORT

Attached is a fiscal year to date comparative report of gifts to Michigan Technological University and the Michigan Tech Fund.

RECOMMENDATION: That the Board of Trustees acknowledges the gifts to Michigan Technological University.

Michigan Technological University
Michigan Tech Fund
Fundraising Productivity Report
 July 1, 2020 through January 31, 2021
 Compared to Prior Fiscal Year

FY21

Source	YTD Total	Adjustment	FY Goal <small>(in millions)</small>	% of Goal
Individual Giving	15,780,405	2,000,000	18.25	97%
Corporate Giving	1,415,219		1	142%
Foundation & Other Org Giving	3,104,894	142,359	1	325%
Corporate Sponsored Research	9,191,103		11	84%
Fundraising Total	29,491,621	2,142,359		

FY20

Source	YTD Total	Adjustment	FY Goal <small>(in millions)</small>	% of Goal	FY Total
Individual Giving	11,697,212		26.25	45%	15,248,784
Corporate Giving	1,927,862		2	96%	2,453,346
Foundation & Other Org Giving	746,538		1.5	50%	1,153,801
Corporate Sponsored Research	6,389,846		11	58%	9,972,618
Fundraising Total	20,761,457		40.75	51%	28,828,550

		FY Goal	% of Goal
TOTAL PROGRESS TOWARDS FY GOAL	\$ 31,633,980	31.25	101%

Amt of TOTAL from Gifts-in-Kind *105,676 (included in Source totals above)*

Realized Planned Gifts *3,308,856*

Realized Pledges *3,894,079*

Notes:

- The Adjustment totals include changes to gift records (eg. gift received date, amount, or other donor driven gift modifications)
- The FUNDRAISING TOTAL includes outright gifts, as well as new pledge and planned gift commitments, made in the specified date range.
- Realized planned gifts and realized pledges are not included in the FUNDRAISING TOTAL.
- An individual's gifts made through a donor-advised fund are counted under the individual.
- An individual's gifts made through another source (i.e. family foundation or closely held business) are counted under the source entity.
- The FUNDRAISING TOTAL for fiscal years 2020 and later include gifts-in-kind under other sources (Major Gifts, Annual Giving, etc).

VIII. ACTION AND DISCUSSION ITEMS

- A. Employee Recognition
- B. Proposal for a Bachelor of Arts Degree in Chemistry
- C. Exclusion Resolution for Department of Defense
- D. Resolution to Approve External Auditor

VIII-A. EMPLOYEE RECOGNITION

For our employees that have worked for Michigan Tech for 35 or more years and in recognition of their distinguished service and outstanding contributions to Michigan Tech, the Board would like to honor them with a resolution of appreciation.

RECOMMENDATION: That the Board of Trustees adopts the Resolution of Appreciation for the following individuals:

- 1.) Lori Monette – 37 years of service

VIII-B. PROPOSAL FOR A BACHELOR OF ARTS DEGREE IN CHEMISTRY

The faculty in the Department of Chemistry, under the umbrella of the College of Sciences and Arts, seek to establish a Bachelor of Arts Degree in Chemistry. The objectives for this degree are to attract and retain students interested in pre-professional and secondary education, providing them with a solid foundation in chemistry.

This new degree is an attractive and accessible pre-professional degree that provides students with a broader, more flexible program of study than Michigan Tech's nationally certified Bachelor of Science in Chemistry degree program. Students interested in secondary education and professional programs will benefit from having a solid foundation in chemistry. This flexibility will allow students to select courses to their particular career interests and take classes in another discipline more easily, while still graduating in four years when entering with appropriate mathematical preparation. The Bachelor of Arts in Chemistry program can be tailored in pursuit of professional paths such as teacher certification, pre-law, technical writer, business and sales, pre-medicine, pre-dentistry, pre-veterinary, physical therapy, criminology, and other applied science careers. The additional flexibility in both profession-path choices and scheduling may also attract more transfer students from community colleges.

The proposal has been approved by the University Senate and the University administration. The University is seeking Board of Trustees approval to advance the proposal to the State Academic Affairs Officers.

RECOMMENDATION: The Board of Trustees approves the Bachelor's of Arts Degree in Chemistry.



Office of the Provost and
Senior Vice President for Academic Affairs

Phone: (906) 487-2440
Fax: (906) 487-2935

TO: Richard Koubek, President

FROM: Jacqueline E. Huntoon, Provost & Senior Vice President for Academic Affairs

Jacqueline E. Huntoon

DATE: February 18, 2021

SUBJECT: Senate Proposal 38-21

Attached is Senate proposal 38-21, "Proposal for a Bachelor of Arts Degree in Chemistry," and a memo stating the Senate passed this proposal at their February 17, 2021 meeting. I have reviewed this memo and recommend approving the proposal.

I concur X do not concur with this recommendation.

Richard Koubek, President

2/19/21

Date



Michigan Tech

University Senate

DATE: February 18, 2021
TO: Richard Koubek, President
FROM: Samuel Sweitz
University Senate President
SUBJECT: Proposal 38-21
COPIES: Jacqueline E. Huntoon, Provost & Senior VP for Academic Affairs

At its meeting on February 17, 2021, the University Senate approved Proposal 38-21, "Proposal for a Bachelor of Arts Degree in Chemistry". Feel free to contact me if you have any questions.

The University Senate of Michigan Technological University

Proposal

(Voting Units: Academic)

Proposal for a Bachelor of Arts Degree in Chemistry

- A. **Current Date:** April 12, 2020
- B. **Contact:** Martin Thompson, thompson@mtu.edu, Department of Chemistry
- C. **Interdisciplinary programs require an attached approval from each department and dean named as sponsors:** Not applicable.
- D. **General Description and Characteristics of the Program, Including Learning Goals**

1. Description

The Bachelor of Arts in Chemistry will provide students with a firm and broadly-based foundation in chemistry, and the flexibility to pursue other educational objectives, such as in law, business, any of the pre-health pathways, or specializing in a minor area of study in another discipline such as biochemistry, biology, business, computer science, and many others.

2. Characteristics

The Bachelor of Arts in Chemistry will require a total of 120 credits for graduation, based on the following degree requirements:

- i. 57 Credits of Major Requirements
 - 45 Credits of Chemistry, including 9 credits of chemistry electives
 - 12 Credits of Mathematics and Physics
- ii. 24 Credits of General Education (non-STEM)
- iii. 39 Credits of Free Electives

3. Learning Goals

We expect that all chemistry majors will finish their program of study as well-rounded critical thinkers and lifelong learners. Graduates from this program will be able to:

- Articulate foundational theoretical and experimental knowledge in basic, organic and physical chemistry, and in quantitative and instrumental analytical methods.
- Work safely in a laboratory to collect, analyze and evaluate experimental data.
- Use scientific literature relevant to critical evaluation of a scientific question, to research, and to solve problems.
- Communicate scientific ideas to general and scientific audiences using both oral and written methods.
- Demonstrate proficiency in the societal and environmental implications of chemistry as a discipline, and professional responsibilities as an ethical chemist.

- Compete for and perform in graduate study or professional work in chemistry, education, or other chosen professional fields such as health professions, law, business, etc.

See curriculum design in Section I.

E. Title of program: Bachelor of Arts Degree in Chemistry

F. Rationale

The Bachelor of Arts degree program is an attractive and accessible pre-professional degree that provides students with a broader, more flexible program of study than our nationally certified Bachelor of Science degree program. Students interested in secondary education and professional programs will benefit from having a solid foundation in chemistry. This flexibility will allow students to select courses to their particular career interests and take classes in another discipline more easily, while still graduating in four years when entering with appropriate mathematical preparation. The Bachelor of Arts program can be tailored in pursuit of professional paths such as teacher certification, pre-law, technical writer, business and sales, pre-medicine, pre-dentistry, pre-veterinary, physical therapy, criminology, and other applied science careers. The additional flexibility in both professional-path choices and scheduling may also attract more transfer students from community colleges.

This degree program supports the goals of Michigan Tech's strategic plan by potentially increasing student enrollment and retention, improving graduation rates in Chemistry by providing students with an alternative to the Bachelor of Science degree without significantly extending the time to completion.

G. Related programs

There is no BA in Chemistry at Michigan Tech University, but multiple BA programs are already available (Physics, Psychology, Theatre and Entertainment, History, Communication, Culture, and Media, Scientific and Technical Communication, English, Theatre and Electronic Media Performance, Sound Design, etc.). The most closely related program at MTU is our BS in chemistry, which is certified by the American Chemical Society. This degree requires a higher level of mathematics preparation and significantly more chemistry courses than are necessary for students seeking pathways leading to professions noted in Section F above. The BA in Physics is also structurally similar, with a minimum of 60 credits of major requirements (including 15 credits of physics electives), up to 40 credits of free electives, and 124 credits total.

There are almost as many BA Chemistry programs at other institutions in the United States as there are chemistry degree programs. Program requirements for benchmarked programs around the U.S. are linked below.

[Brigham Young University](#)

[Case Western Reserve University](#)

[Michigan State University Chemistry \(Includes BA/BS Comparison\)](#)

[Oakland University](#)

[Rice University](#)

[State University of New York - Buffalo](#)

[University of Missouri - Kansas City](#)
[University of Rochester](#)
[University of Virginia](#)
[University of Washington](#)
[York College, City University of New York](#)

H. Projected Student Enrollment

Based on the introduction of our pharmaceutical degree and biochemistry and molecular biology degree programs, and discussions with the pre-health advisor, we expect 15 students to be added to our undergraduate enrollment over the course of the first three years. It is difficult to say how many students will transfer into the BA in Chemistry program from the BS or other department programs, and therefore we are not factoring that aspect into the estimates of 'new growth' in students.

I. Curriculum design:

Major Requirements	Credits
CH 1130 PDFC 1: Orientation	1
CH 1150 University Chemistry I	3
CH 1151 University Chemistry I Lab	1
CH 1153 University Chemistry I Recitation	1
CH 1160 University Chemistry II	3
CH 1161 University Chemistry II Lab	1
CH 1163 University Chemistry II Recitation	1
CH 2130 PDFC 2: Career Planning	2
CH 2212 Quantitative Analysis	5
CH 2411 Organic Chemistry I Lab	1
CH 2421 Organic Chemistry II Lab	2
CH 2430 Mechanistic Organic Chemistry	3
CH 2440 Synthetic Organic Chemistry	3
CH 3130 PDFC 3: Communication	1
CH 3515 Principles of Physical Chemistry	3
CH 4130 PDFC 4: Senior Seminar	2
CH 4710 Biomolecular Chemistry I	3
CH (Major electives in CH)	9 (minimum 6 cr 3000-level or higher)
PH 1110 College Physics 1*	3
PH 1111 College Physics I Lab*	1
PH 1200 Physics by Inquiry II	1
PH 1210 College Physics II*	3
MA 1160 Calculus with Technology I	4
Major Requirements Subtotal	57
General Education Requirements (non-STEM)	
UN 1015 Composition	3
UN 1025 Global Issues	3
Gen Ed Core: Critical and Creative Thinking	3
Gen Ed Core: Social Responsibility	3
General Education Hass	12
General Education Subtotal	24
Free Electives	39
Program Total	120

*College Physics sequence may be substituted with University Physics sequence if deemed appropriate for the student's chosen pathway. Additional prerequisite courses beyond those explicitly shown here would be required. Interested students should coordinate with their academic advisor.

See Appendix B for a sample four-year schedule.

Recommended courses for sample pathways are shown in Appendix D.

J. New Course Description

CH 3515 Principles of Physical Chemistry

This algebra-based approach to physical chemistry examines foundational topics in thermodynamics, chemical equilibrium, chemical kinetics, atomic and molecular spectroscopy and structure, the periodic table, and elements of quantum mechanics.

Credits: 3

Lec-Rec-Lab: (3-0-0)

Semesters Offered: Fall

Pre-Requisite: CH 1122 or (CH 1160 and CH 1161) and MA1160 and (PH 1210(C) or PH2200 (C))

K. Model schedule demonstrating completion time: See Appendix B

L. Library and other learning resources: No additional material required or requested.

M. Description of available/needed equipment and space: No additional equipment required or requested. No additional space required or requested.

N. Program costs

Current faculty resources are projected to support enrollment growth surpassing 100 students. The program's required courses are already offered except for CH3515, which was offered in the past but is not currently in the catalog. It is widely understood that a room that holds 40 students, yet has 20 enrolled can fit 20 more students without changing costs much. This does translate into increased time as it takes a faculty member to prepare grade papers, exams, and content and knowledge delivery mechanisms. Advising time will increase with more students. See also Appendix C.

O. Accreditation requirements: Not applicable.

P. Planned implementation: Fall 2021

Approved by Dept. of Chemistry faculty: April 21, 2020

Approved by CSA Dean:

Approved by Dean's Council:

Approved by the University Senate:

Approved by Provost:

Appendix A: Additional requirements for new degree programs

1. Program-specific policies, regulations, and rules

The program adheres to all existing university policies, regulations, and rules. There are no program-specific policies, regulations, and rules.

2. Scheduling plans

Standard

3. Space

The Department of Chemistry is located in the ageing Chemical Sciences and Engineering Building (19). There is currently classroom and laboratory space for classes, labs, computing equipment, and faculty offices. Space is sufficient to meet the needs of this program.

4. Faculty resumes

See the following link: <https://www.mtu.edu/chemistry/people-groups/faculty-staff/>

5. Information required for financial review

See Appendix C.

Appendix B. B.A. Sample Four-Year Plan

First-Year Fall	Credits
CH 1150 University Chemistry I	3
CH 1151 University Chemistry I Lab	1
CH 1153 Univ. Chemistry I Recitation	1
CH 1130 PDFC 1: Orientation	1
PH 1110 College Physics I*	3
PH 1111 College Physics I Lab*	1
UN 1015 Composition	3
Total Credits	13

First-Year Spring	Credits
CH 1160 University Chemistry II	3
CH 1161 University Chemistry II Lab	1
CH 1163 Univ. Chemistry II Recitation	1
PH 1200 Physics by Inquiry II	1
PH 1210 College Physics II*	3
UN 1025 Global Issues	3
Free Electives	3
Total Credits	15

Second-Year Fall	Credits
CH 2130 PDFC 2: Career Planning	2
CH 2430 Mechanistic Organic Chem	3
CH 2411 Organic Chemistry I Lab	1
MA 1160 Calculus I with Technology	4
Core: Critical and Creative Thinking	3
Free or Chemistry Electives	3
Total Credits	16

Second-Year Spring	Credits
CH 2212 Quantitative Analysis	5
CH 2440 Synthetic Organic Chemistry	3
CH 2421 Organic Chemistry II Lab	2
Core: Social Resp. & Eth. Reasoning	3
Free or Chemistry Electives	3
Total Credits	16

Third-Year Fall	Credits
CH 3515 Principles of Physical Chem	3
General Education HASS Requirement	3
Free or Chemistry Electives	9
Total Credits	15

Third-Year Spring	Credits
CH 3130 PDFC 3: Communication	1
General Education HASS Requirement	3
Free or Chemistry Electives	12
Total Credits	16

Fourth-Year Fall	Credits
CH 4710 Biomolecular Chemistry 1	3
General Education HASS Requirement	3
Free or Chemistry Electives	9
Total Credits	15

Fourth-Year Spring	Credits
CH 4130 PDFC 4: Senior Seminar	2
General Education HASS Requirement	3
Free or Chemistry Electives	9
Total Credits	14

*College Physics sequence may be substituted with University Physics sequence if deemed appropriate for the student's chosen pathway. Additional prerequisite courses beyond those explicitly shown here would be required. Interested students should coordinate with their academic advisor.

Appendix C: Criteria for Financial Evaluation of Proposed Academic Programs

1. Relation to University Strategic Plan

a. Relation of the program to the university's educational and research goals.

The proposed program supports the education goal of the University Strategic Plan, “Provide a distinctive and rigorous action-based learning experience grounded in science, engineering, technology, business, sustainability, and an understanding of the social and cultural contexts of our contemporary world.” More specifically, the new program supports student learning by developing an opportunity for students to create tailored, interdisciplinary academic experiences, and by expanding “programs in response to social and economic needs and challenges.”

b. Consistency with the university's resource allocation criteria.

The proposed program should support the university budget in several ways. First, it is intended to attract new students to the university. Second, the program plays well with several existing programs, such as pre-health, pre-law, etc. Third, the new degree can be offered at negligible additional cost by building on top of the existing programs and resources.

2. Impact on University Enrollment

a. Projected number of students in the program.

We recognize that the new degree program will enter a market established 100 years ago in some cases, with fierce competition. We project a conservative enrollment of 10-15 new students for the first three years.

b. Source of new students; in particular, will the students be drawn from existing programs, or will they be students who would otherwise not have come to Tech?

Based on the study of national trends and related programs in Michigan and the surrounding states, it is expected that the program will attract new students to Michigan Tech.

Meanwhile, we anticipate that some students may transfer from other science and pre-professional programs. These are usually students with strong interest in chemistry, but who previously may not have majored in chemistry given the available chemistry degree programs and their career goals. The proposed new major would help retain these students at Michigan Tech by providing them with additional options. For example, with the liberation of many credits of major requirements, students can customize their chemistry degree with business, law, health or other courses that can apply chemistry in flexible and unique student-centered ways.

c. What is the likely correlation between demand for the new program and existing enrollment patterns at Michigan Tech?

This program is in a stable discipline. Prospective students like the idea of a degree in Chemistry that avoids the obstacles to learning chemistry (which based on student feedback are not even chemistry courses, i.e. Differential Equations, Calculus, etc.) and allows students to tailor their degrees to other applicable areas. Therefore, it is reasonable to predict that the enrollment will continue to grow.

d. What is the current enrollment in the unit?

In Fall 2020, there were 75 undergraduates in the four chemistry degree programs.

3. Assessment.

This program will be assessed as part of the ongoing University assessment program. All of the University learning goals will be addressed by one or more classes in the proposed program. Courses that are outside of the general education requirements will address disciplinary knowledge as well as other university learning goals. Assessment of this program will be conducted by individual faculty and the undergraduate programs committee in the Department of Chemistry, alongside the existing departmental degree programs to ensure the 8 learning goals set forth by the provost office are planned, implemented and used to improve the program. Details are available for existing degree programs can be found: <https://sites.google.com/a/mtu.edu/degree-program-annual-reports/college-of-sciences-and-arts>

These curricular maps will be developed for the new degree program over the course of the 202-21 academic year for implementation at the same time the degree is expected to be offered in Fall of 2021. It should be noted that the ACS does not certify non-BS degrees. This will need to be done through another external entity. We are currently discussing how to accomplish this goal for all of our non-ACS certified degrees. Therefore, we will have a plan implemented prior to offering this degree program at the aforementioned date.

4. Discuss impact on resources required by the department in which the program is housed.

a. Faculty lines.

No new faculty are requested. The increased time to teach and advise new students will be absorbed by the department by filling classrooms already below capacity.

b. Faculty and student labs, including ongoing maintenance.

Existing chemistry labs, including equipment, bench space, and classroom seat availability, are adequate to support the program.

c. Advising

The current resources for advising within the Department of Chemistry will be adequate.

d. Assessment

Additional assessment time is difficult to determine precisely because this program will need to be assessed internally and externally. The minimum time for internal audits of the learning goals is 20-30 hours per semester. This includes individual and committee time dedicated to developing assessment plans, collecting data for discussion and the final analysis.

Additionally, “closing the loop” to continually improve our program. Courses that overlap with the other degree programs in chemistry will be completed and reported collectively whenever possible to efficiently report. This additional time effort overlapping with our other degree programs is difficult to quantify considering so much time from so many faculty members will be involved. But it is no more or less a burden than any department encounters to fulfill our assessment and accreditation requirements.

5. Discuss impact on resources required by other units within the university.

a. Impact on other classes

The program coursework consists of existing courses from the chemistry degree program. We expect that the capacity within the department is adequate to serve the students in the new major. Due to our current enrollment being at a 10-year low, a significant increase in enrollment increase over the next few years is not expected to cause scheduling or overcrowding problems. Recruiting initiatives began last year to increase enrollment back to prior norms of about 100 undergraduates in chemistry majors.

b. Has the department initiated any other new degree programs in the last five years?

No.

c. How do the benefits from this program compare to other alternatives that are currently under consideration or development?

There are no alternatives under consideration or development.

6. Discussion on departmental budget contribution

No new budget contributions are necessary from the department.

Appendix D - Sample Pathways with Recommended Courses

Pre-Chiropractic

Included in Major Requirements

CH 1150 University Chemistry I
CH 1151 University Chemistry I Lab
CH 1160 University Chemistry II
CH 1161 University Chemistry II Lab
CH 2430 Mechanistic Organic Chemistry
CH 2411 Organic Chemistry I Lab
CH 2440 Synthetic Organic Chemistry
CH 2421 Organic Chemistry II Lab
CH 4710 Biomolecular Chemistry I
PH 1110 College Physics I
PH 1111 College Physics I Laboratory
PH 1200 Physics by Inquiry II
PH 1210 College Physics II
1 Semester of Calculus

General Education Core and HASS Allocations

HU 3015 Advanced Composition or HU 2503 Introduction to Literature
One Additional Humanities Course (Recommended - HU 3400 Topics in Diversity Studies)
PSY 2000 Introduction to Psychology
SS 2700 Introduction to Sociology

Free Elective Allocations

	Credits
BL 2010 Anatomy & Physiology	3
BL 2011 Anatomy & Physiology I Lab	1
BL 2020 Anatomy & Physiology II	3
BL 2021 Anatomy & Physiology II Lab	1
KIP 1500 Essentials of Kinesiology	3
KIP 4100 Exercise Physiology	3
KIP 4110 Exercise Physiology Laboratory	1
KIP 4200 Biomechanics of Human Movement	3
KIP 4210 Biomechanics of Human Movement Lab	1
BL 1010 General Biology I	4
BL 1020 General Biology II	4
MA 2720 Statistical Methods or MA 3715 Biostatistics	3-4
Total Free Elective Credits Used	30-31

Pre-Dental

Included in Major Requirements

CH 1150 University Chemistry I
CH 1151 University Chemistry I Lab
CH 1160 University Chemistry II
CH 1161 University Chemistry II Lab
CH 2430 Mechanistic Organic Chemistry
CH 2411 Organic Chemistry I Lab
CH 2440 Synthetic Organic Chemistry
CH 2421 Organic Chemistry II Lab
CH 4710 Biomolecular Chemistry I
CH 4720 Biomolecular Chemistry II
PH 1110 College Physics I
PH 1111 College Physics I Laboratory
PH 1200 Physics by Inquiry II
PH 1210 College Physics II

General Education Core and HASS Allocations

HU 3015 Advanced Composition or HU 2503 Introduction to Literature
PSY 2000 Introduction to Psychology
SS 2700 Introduction to Sociology

Free Elective Allocations

	Credits
BL 2010 Anatomy & Physiology	3
BL 2011 Anatomy & Physiology I Lab	1
BL 2020 Anatomy & Physiology II	3
BL 2021 Anatomy & Physiology II Lab	1
BL 1010 General Biology I	4
BL 1020 General Biology II	4
BL 2200 Genetics	3
BL 2210 Genetics Laboratory	1
BL 3012 Essential Cell Biology	3
BL 3210 Microbiology	4
MA 2720 Statistical Methods or MA 3715 Biostatistics	3-4
Total Free Elective Credits Used	30-31

Pre-Medical

Included in Major Requirements

CH 1150 University Chemistry I
CH 1151 University Chemistry I Lab
CH 1160 University Chemistry II
CH 1161 University Chemistry II Lab
CH 2430 Mechanistic Organic Chemistry
CH 2411 Organic Chemistry I Lab
CH 2440 Synthetic Organic Chemistry
CH 2421 Organic Chemistry II Lab
CH 4710 Biomolecular Chemistry I
CH 4720 Biomolecular Chemistry II
PH 1110 College Physics I
PH 1111 College Physics I Laboratory
PH 1200 Physics by Inquiry II
PH 1210 College Physics II

General Education Core and HASS Allocations

HU 3015 Advanced Composition or HU 2503 Introduction to Literature
PSY 2000 Introduction to Psychology
SS 2700 Introduction to Sociology

Free Elective Allocations

	Credits
BL 2010 Anatomy & Physiology	3
BL 2011 Anatomy & Physiology I Lab	1
BL 2020 Anatomy & Physiology II	3
BL 2021 Anatomy & Physiology II Lab	1
BL 1010 General Biology I	4
BL 1020 General Biology II	4
BL 2200 Genetics	3
BL 2210 Genetics Laboratory	1
BL 3012 Essential Cell Biology	3
BL 3210 Microbiology	4
BL 3640 General Immunology	3
MA 2720 Statistical Methods or MA 3715 Biostatistics	3-4
Total Free Elective Credits Used	33-34

Pre-Optometry

Included in Major Requirements

CH 1150 University Chemistry I
CH 1151 University Chemistry I Lab
CH 1160 University Chemistry II
CH 1161 University Chemistry II Lab
CH 2430 Mechanistic Organic Chemistry
CH 2411 Organic Chemistry I Lab
CH 2440 Synthetic Organic Chemistry
CH 2421 Organic Chemistry II Lab
CH 4710 Biomolecular Chemistry I
PH 1110 College Physics I
PH 1111 College Physics I Laboratory
PH 1200 Physics by Inquiry II
PH 1210 College Physics II
1 Semester of Calculus

General Education Core and HASS Allocations

HU 3015 Advanced Composition or HU 2503 Introduction to Literature

Free Elective Allocations

	Credits
BL 2010 Anatomy & Physiology	3
BL 2011 Anatomy & Physiology I Lab	1
BL 2020 Anatomy & Physiology II	3
BL 2021 Anatomy & Physiology II Lab	1
BL 1010 General Biology I	4
BL 1020 General Biology II	4
B: 3210 Microbiology	3
Total Free Elective Credits Used	19

Pre-Pharmacy

Included in Major Requirements

CH 1150 University Chemistry I
CH 1151 University Chemistry I Lab
CH 1160 University Chemistry II
CH 1161 University Chemistry II Lab
CH 2430 Mechanistic Organic Chemistry
CH 2411 Organic Chemistry I Lab
CH 2440 Synthetic Organic Chemistry
CH 2421 Organic Chemistry II Lab
CH 4710 Biomolecular Chemistry I
PH 1110 College Physics I
PH 1111 College Physics I Laboratory
PH 1200 Physics by Inquiry II
PH 1210 College Physics II
1 Semester of Calculus

General Education Core and HASS Allocations

HU 3015 Advanced Composition or HU 2503 Introduction to Literature
HU 2830 Public Speaking & Multimedia
HU 3820 Interpersonal Communication
PSY 2000 Introduction to Psychology
SS 2700 Introduction to Sociology

Free Elective Allocations

	Credits
BL 2010 Anatomy & Physiology	3
BL 2011 Anatomy & Physiology I Lab	1
BL 2020 Anatomy & Physiology II	3
BL 2021 Anatomy & Physiology II Lab	1
BL 1010 General Biology I	4
BL 1020 General Biology II	4
BL 2200 Genetics	3
BL 2210 Genetics Laboratory	1
BL 3210 Microbiology	4
MA 2720 Statistical Methods OR	4
MA 3715 Biostatistics	3
EC 2001 Principles of Economics	3
HU Elective (Rec. HU 3400 Topics in Diversity Studies)	3
Total Free Elective Credits Used	37

Pre-Law

Minor in Law and Society

General Education Core and HASS Allocations

- HU 3015 Advanced Composition
- HU 2830 Public Speaking and Multimedia
- SS 2610 Introduction to Law and Society
- SS 3640 Selected Topics in Cyber Law
- SS 3660 Constitutional Law

Free Elective Allocations

Credits

SS 1002 Introduction to Law and Legal Practices	3
SS 2610 Introduction to Law and Society	3
SS 3610 International Law	3
SS 3661 Civil Rights and Civil Liberties	3
SS 3665 Crime, Incarceration, and Policy	3
SS 3910 Histories and Cultures	3
SS 3960 Cultural Immersion	3
SS 4921 Washington Internship	3
HU 2840 Interpersonal Communication	3
HU 3261 Topics in Communicating Across Cultures	3
HU 3400 Topics in Diversity Studies	3
PSY 2000 Introduction to Psychology	3
PSY 3070 Cross Cultural Psychology	3
Total Free Elective Credits Used	39

Business and Entrepreneurship

Minor in Business or Global Business

General Education Core and HASS Allocations

HU 3015 Advanced Composition

HU 2830 Public Speaking and Multimedia

EC 2001 Principles of Economics

Free Elective Allocations

BUS 1100 Introduction to Business

BUS 2200 Business Law

FIN 2400 Finance Literacy

FIN 3000 Principles of Finance

MGT 2000 Team Dynamics and Decision Making

MGT 3000 Organizational Behavior

MGT 3800 Entrepreneurship

MKT 3000 Principles of Marketing

MKT 3200 Consumer Behavior

Credits

3

3

3

3

3

3

3

3

3

Total Free Elective Credits Used

27

Business and Entrepreneurship

Minor in Business or Global Business

General Education Core and HASS Allocations

HU 3015 Advanced Composition

HU 2830 Public Speaking and Multimedia

EC 2001 Principles of Economics

Free Elective Allocations

Credits

BUS 1100 Introduction to Business

3

BUS 2200 Business Law

3

FIN 2400 Finance Literacy

3

FIN 3000 Principles of Finance

3

MGT 2000 Team Dynamics and Decision Making

3

MGT 3000 Organizational Behavior

3

MGT 3800 Entrepreneurship

3

MKT 3000 Principles of Marketing

3

MKT 3200 Consumer Behavior

3

Total Free Elective Credits Used

27

Science Writing / Technical Writing

Minor in Writing

General Education Core and HASS Allocations

HU 3015 Advanced Composition

HU 3120 Technical and Professional Communication

HU 3693 Science Writing

Free Elective Allocations

Credits

HU 2130 Introduction to Rhetoric

3

HU 3151 Rhetoric of Everyday Texts

3

HU 3605 Grammar and Usage in Society

3

HU 3694 Grant Writing

3

HU 3695 Digital Writing and Rhetoric

3

HU 4625 Risk Communication

3

HU 4626 International Technical Communication

3

HU 4690 Special Topics in Technical & Professional Comm.

3

Total Free Elective Credits Used

24

VIII-C. EXCLUSION RESOLUTION FOR DEPARTMENT OF DEFENSE

In 2008 the Board of Control amended policy 12.8. Security Clearance Department of Defense by establishing an Executive Committee. On March 5, 2009, the Board approved an Exclusion Resolution for the Department of Defense that excludes Board of Trustees member's access to classified information unless they are a member of the Executive Committee. The Board appointees to the Executive Committee are Jeffrey Littmann, Brenda Ryan and Derhun Sanders. The Administration is requesting that the Exclusion Resolution be revised to reflect the current Board appointments.

RECOMMENDATION: That the Board of Trustees adopts the Exclusion Resolution as presented herein.

I, *Richard J. Koubek*, do hereby certify that I am President of Michigan Technological University, a Michigan educational institution organized and existing under the laws of the State of Michigan, and that the following is a true and correct copy of a resolution adopted by the Board of Trustees of Michigan Technological University at a meeting held at Michigan Technological University on Friday, February 26, 2021, at which time a quorum was present.

EXCLUSION RESOLUTION

WHEREAS, current Department of Defense Regulations contain a provision making it mandatory that the Senior Management Officials and Facility Security Officer meet the personnel clearance requirements established for a contractor facility security clearance; and

WHEREAS, said Department of Defense Regulations permit the exclusion from the personnel clearance requirements of certain members of the Board of Trustees and other officers, provided that this action is recorded in the corporate minutes.

NOW THEREFORE BE IT DECLARED that the President of the University, Chairman of the Board, Vice President for Research and Facility Security Officer at the present time do possess, or will be processed for, the required eligibility for access to classified information; and

BE IT RESOLVED that in the future, when any individual enters upon any duties as President of the University, Vice President for Research, Chairman of the Board, and Facility Security Officer, such individual shall immediately make application for the required eligibility for access to classified information; and

BE IT RESOLVED AND DIRECTED that the following members of the Board of Trustees shall not require, shall not have, and can be effectively and formally excluded from access to all **CLASSIFIED** information in possession of the corporation and shall not affect adversely corporate policies or practices in the performance of classified contracts for the Department of Defense or the government contracting activities (User Agencies) of the National Industrial Security Program.

NAME	TITLE
John D. Bacon	Board of Trustee Member
John E. Jipping	Board of Trustee Member
Matthew D. Johnson	Board of Trustee Member
Steven M. Tomaszewski	Board of Trustee Member

IN WITNESS WHEREOF I have hereunto set my hand and affixed the seal of Michigan Technological University on this date: _____.

Richard J.
Koubek
President, Michigan Technological
University

VIII-D. APPROVAL OF EXTERNAL AUDITOR

The University's external auditors (certified public accountants) perform interim audit work prior to the close of our June 30 fiscal year, therefore, it is desirable that they be appointed prior to the end of the fiscal year.

RECOMMENDATION: That the Board of Trustees authorizes the Treasurer to engage the certified public accounting firm Plante Moran to conduct the following audits for the fiscal year ending June 30, 2021:

1. The annual examination of the University's Financial Statements and Supplemental Information.
2. The Audit of Expenditures of Federal Awards in accordance with the Uniform Guidance.
3. State of Michigan "Crosswalk" (Comprehensive Annual Financial Report) and related subsequent events review procedures.

IX. REPORTS

A Wastewater Monitoring Program

Jennifer Becker, Associate Professor, Civil and Environmental Engineering

B. NASA's BIG Idea Challenge Presentation

Paul van Susante, Assistant Professor, Mechanical Engineering-Engineering Mechanics and Marcello Guadagno, PhD student and student project lead

C. Undergraduate Student Government

Larkin Hooker-Moericke, President

D. Graduate Student Government

Nathan Ford, President

E. University Senate

Sam Sweitz, President

IX-A. WASTEWATER MONITORING PROGRAM

Jennifer Becker, Associate Professor, Civil and Environmental Engineering

Wastewater-Based Epidemiology

Monitoring SARS-CoV-2 in the Michigan Tech and Western UP Communities

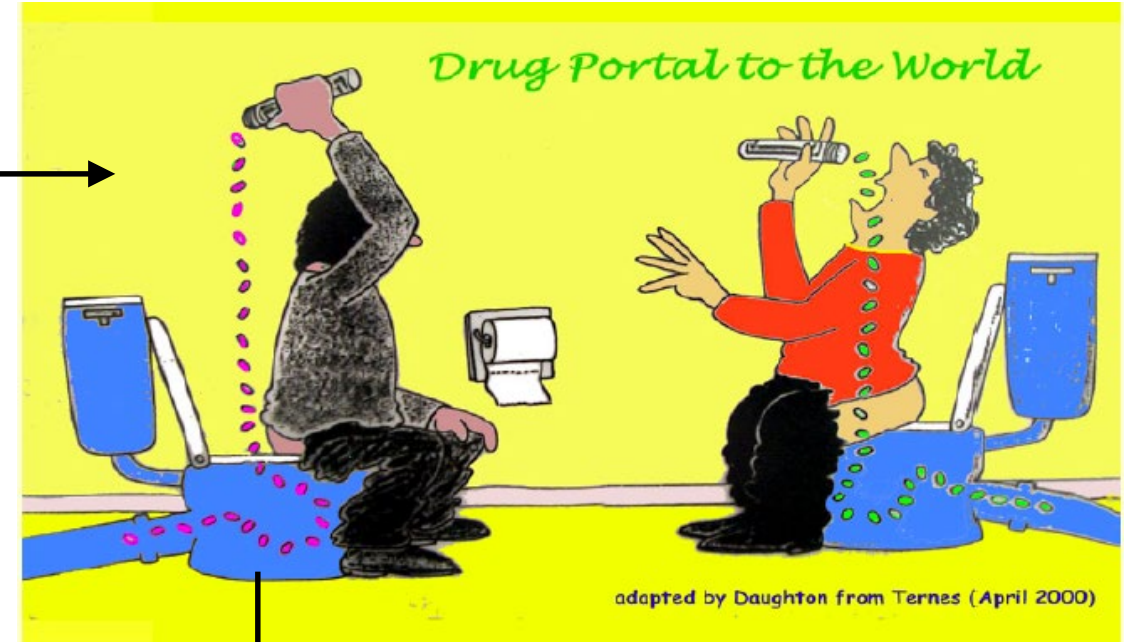
Jennifer G. Becker, Ph.D.

Civil and Environmental Engineering

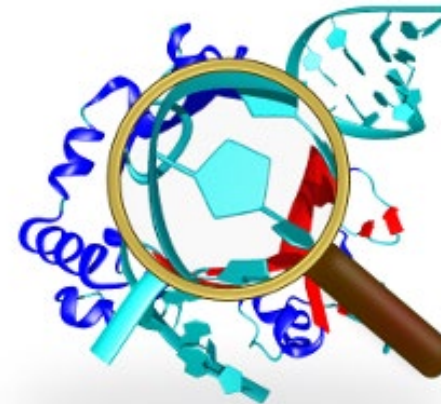
Wastewater-Based Epidemiology

Municipal wastewater can be used to track trends in community health

- Legal and illegal drugs
- Alcohol & tobacco
- Environmental toxins
- Pathogens**



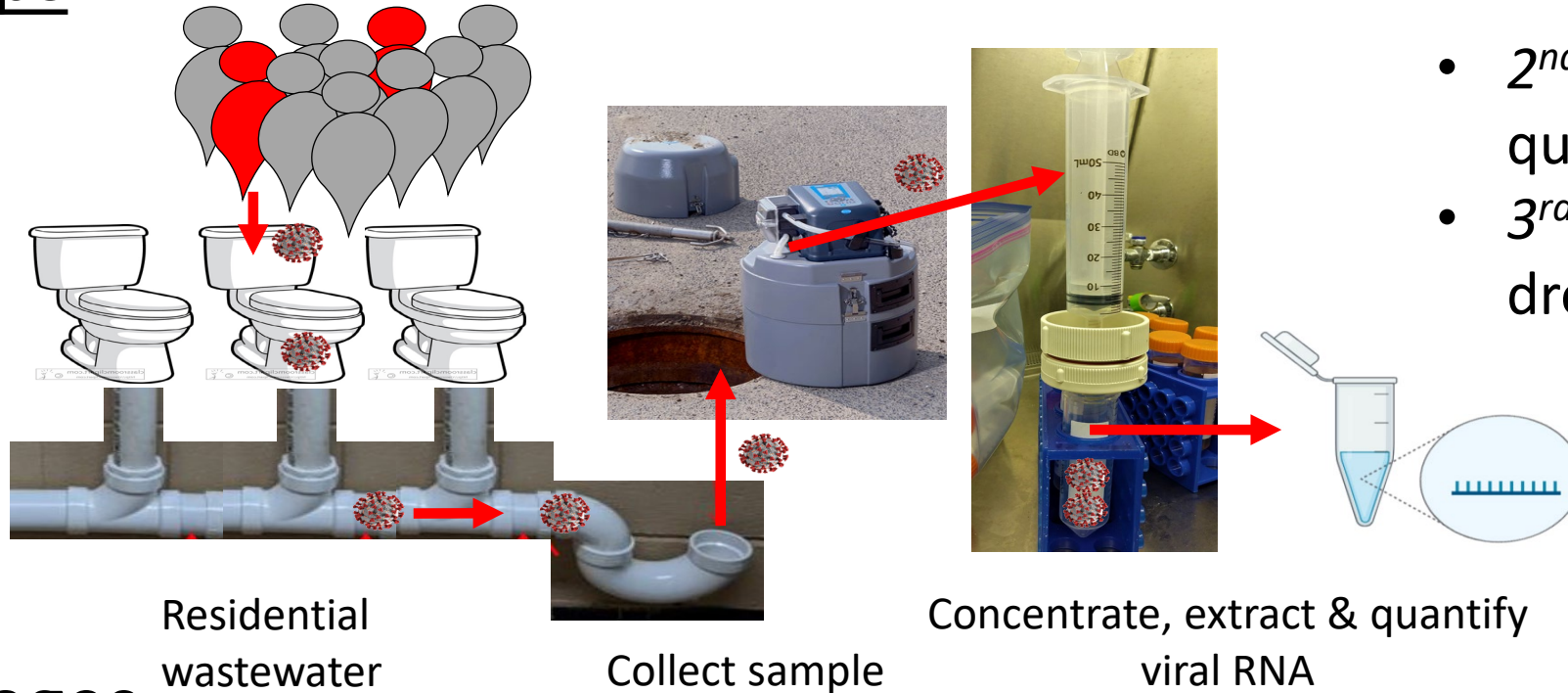
←
Biomarkers
detected/quantified in
wastewater



Biomarkers of
consumption/exposure/
infection in feces and
urine

Wastewater-Based Epidemiology

Key steps



PCR

- *2nd Generation* = quantitative PCR
- *3rd Generation* = droplet digital PCR

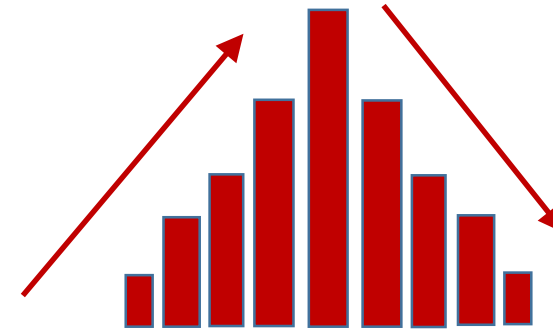
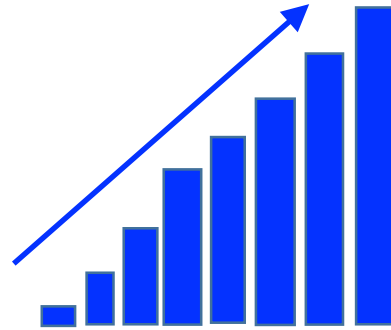
Advantages

- Viral “shedding” occurs before symptoms
- Does not rely on individuals seeking out testing
- Cost effective

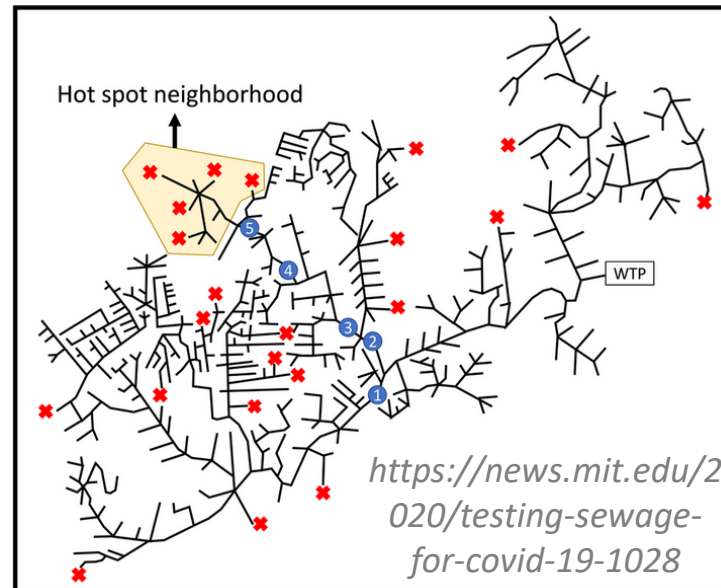
Wastewater-Based Epidemiology

The data can be used to

Detect occurrence & changes in trends of virus levels within a community



Identify hotspots and exposure sites



Direct testing and resource distribution



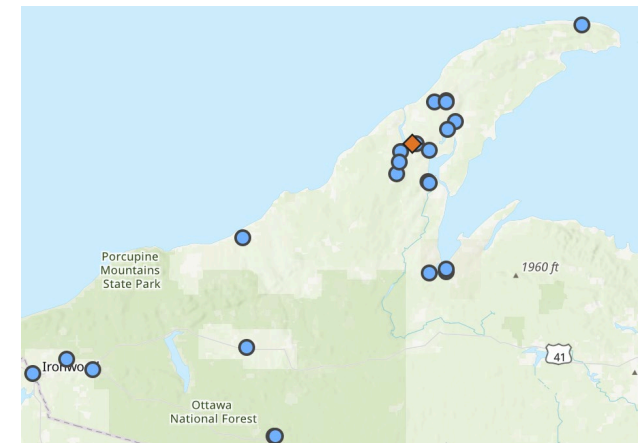
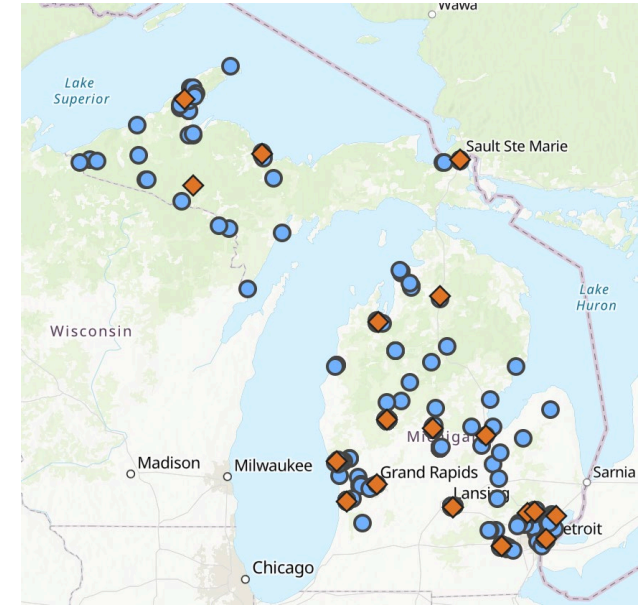
COVID-19 testing. (U.S. Air Force photo by Airman 1st Class Mandy Foster, via public domain)

Michigan Tech Residence Hall Monitoring

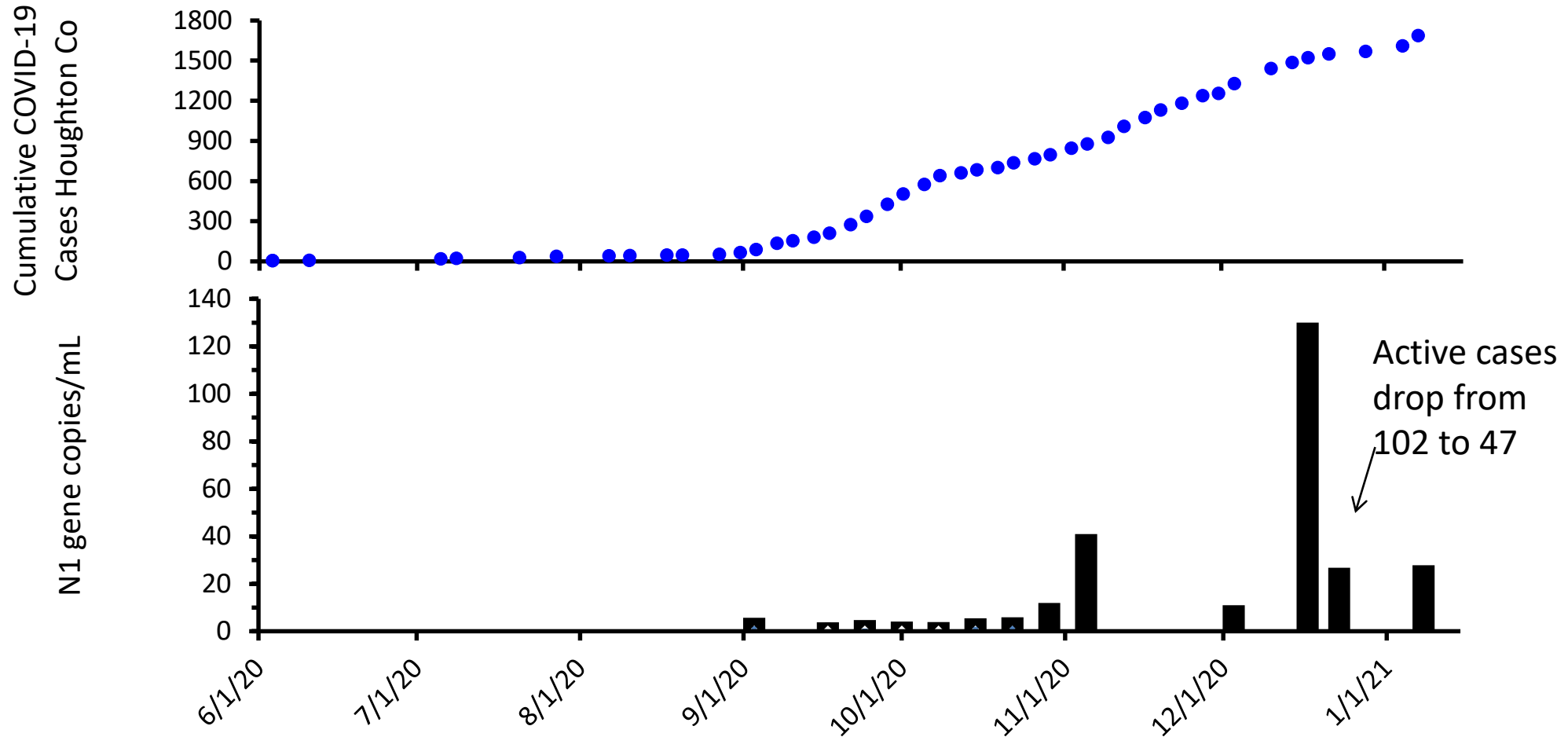
- Goal: Provide real-time information on viral loads in residence hall wastewater to inform university's COVID-19 decision-making process;
- Funding: Office of the Vice President for Research and College of Engineering at Michigan Tech
- Wastewater collected from 4 individual residence halls 3X per week and from a combined residence hall flow 5X per week since August 2020

Michigan Statewide Pilot Study

- Goals:
 - Build infrastructure for community health and research efforts
 - Assess wastewater-based monitoring of COVID-19 dynamics in Michigan communities
- Funding: CARES Act funds via EGLE
Total project = \$10 Million, >\$350,000 to Michigan Tech/WUPHD for 3.5 month project + \$170,000 droplet digital PCR system to Michigan Tech
- Conducted by partnerships between labs, health departments + municipalities/utilities
- Our team processed ~70 samples/week from Baraga, Gogebic, Houghton, Keweenaw and Ontonagon counties



Portage Lake Water and Sewer Authority (Houghton, MI)



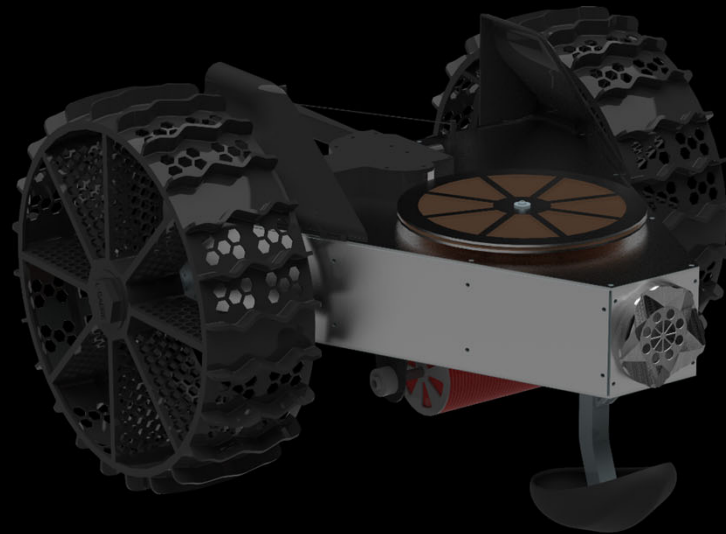
IX-B. NASA's BIG IDEA CHALLENGE

Paul van Susante, Assistant Professor, Mechanical Engineering-Engineering Mechanics
and Marcello Guadagno, PhD student and student project lead

The Tethered permanently shadowed Region EXplorer (T-REX) Mission

Michigan Technological University

Affiliated with the Michigan Space Grant Consortium



Michigan
Technological
University



HUSKYWORKS
PLANETARY SURFACE TECHNOLOGY DEVELOPMENT LAB





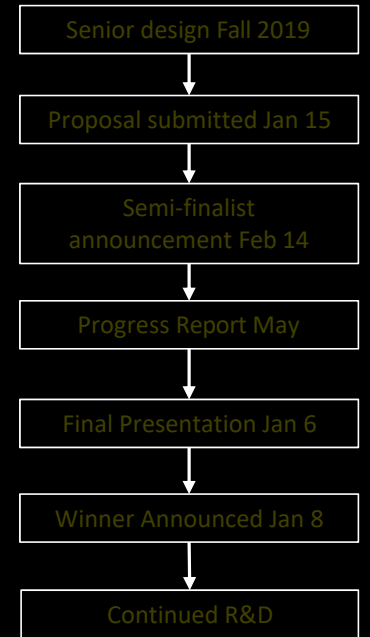
Front matter

Team Photo Wall



Dr. Paul van Susante pjvansus@mtu.edu PI / Faculty Advisor	Travis Wavrunek tawavrun@mtu.edu Graduate	Elijah Cobb ejcobb@mtu.edu Undergraduate	Ted Gronda tgronda@mtu.edu Undergraduate	Collin Miller collinmi@mtu.edu Undergraduate	Hunter McGillivray hjmcgill@mtu.edu Undergraduate
Marcello Guadagno mcguadag@mtu.edu Graduate / Student Lead	Nicholas Zamora nzamora@mtu.edu Undergraduate	Austen Goddu ajgoddu@mtu.edu Undergraduate	Erik Van Horn eavanhor@mtu.edu Undergraduate	Wyatt Wagoner wtwagone@mtu.edu Undergraduate	Anthony Miller Senior Design Team Graduated
Samual Lakenen Senior Design Team Graduated	Jacob Wolff Senior design team Graduated	Mark Wallach Senior Design Team Graduated	Alexander Mathias Senior Design Team Graduated	Alec Mitteer Senior Design Team Graduated	Jonathan Fritsch Senior Design Team Graduated

Current Team:





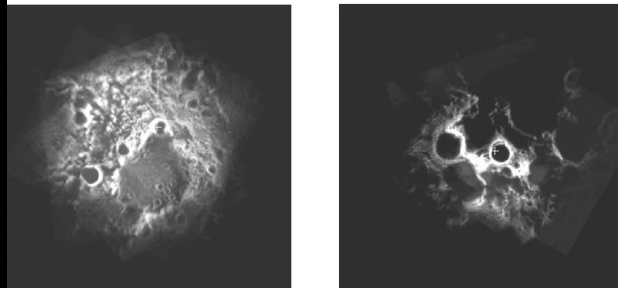
General Background Info

Lunar Permanently Shaded Regions



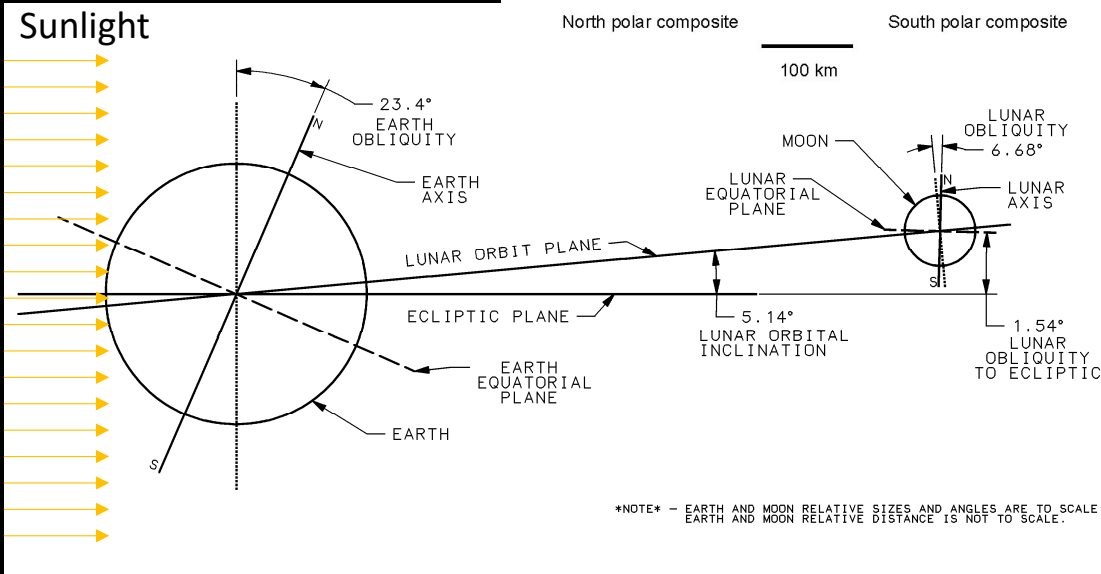
Lunar Polar Composites

Cumulative Images of the pole throughout one lunar day



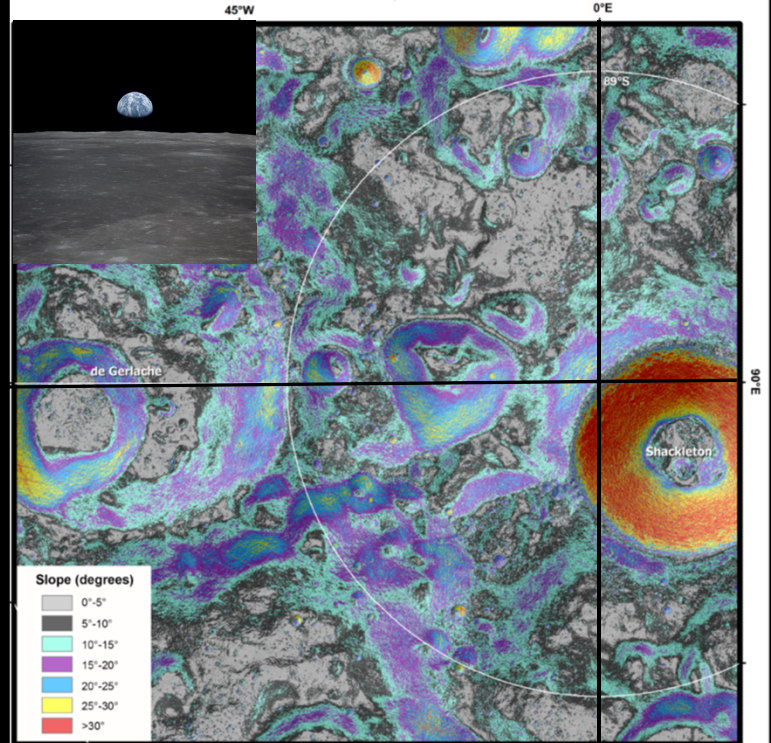
North polar composite South polar composite

100 km



Topographic Slopes of the Moon's South Polar Ridge

Polarstereographic Projection (scale true at pole)
Scale: 1:300,000



USRA LPI Regional Planetary Image Facility
Lunar and Planetary Institute
Houston, Texas, USA

Data sources:
Lunar Reconnaissance Orbiter Lunar Orbiter Laser Altimeter (LOLA) [NASA Goddard Space Flight Center (GSFC)] slopes derived from 20-m scale elevation data over hillshade with solar azimuth 45°W and solar elevation 45°

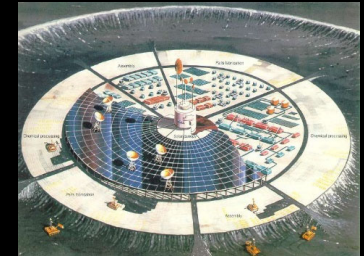
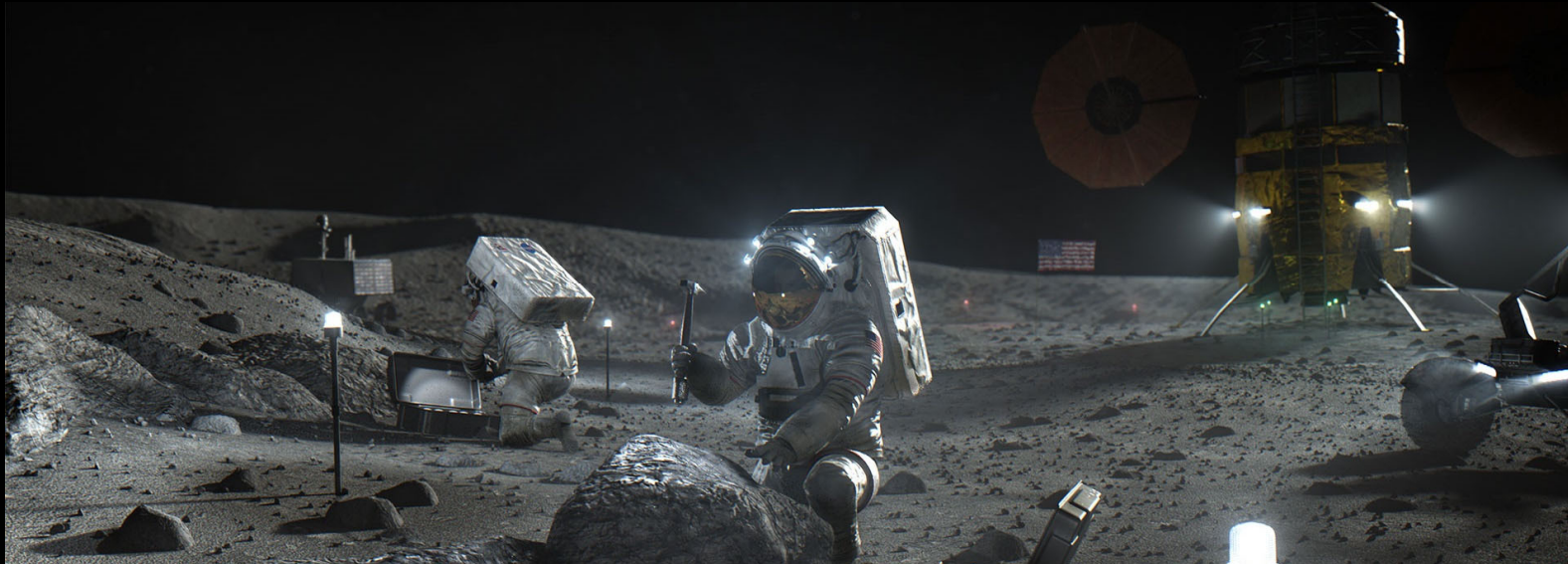
LPI Contribution No. 2181
May 2019

Artemis program wants to land first woman, next man in 2024 at lunar south pole



Mission Overview

Problem Statement



Problem Statement

Design, build and test sample lunar payloads that can demonstrate technology systems needed for exploration and science in the Permanently Shadowed Regions (PSRs) in and near the Moon's polar regions. Teams need to test to TRL-6 (test in a relevant environment)



Mission Overview

Mission Statement and Objectives



Mission Statement

The *Tethered permanently-shadowed Region EXplorer (T-REX)* is a mission that provides power and data to rovers within Permanently Shadowed Regions (PSRs) of the Moon, where conventional line-of-sight communications and solar power generation is limited.

Objective 1

Get Power/Data to itself via direct connection to a moon lander

Objective 2

Get Power/Data to other missions in a lunar PSR from lander

Novel Technology:

- *Superconducting tether*
 - passively cooled by PSR
 - Lightweight and compact
 - Large data/power transfer
 - Scales easily



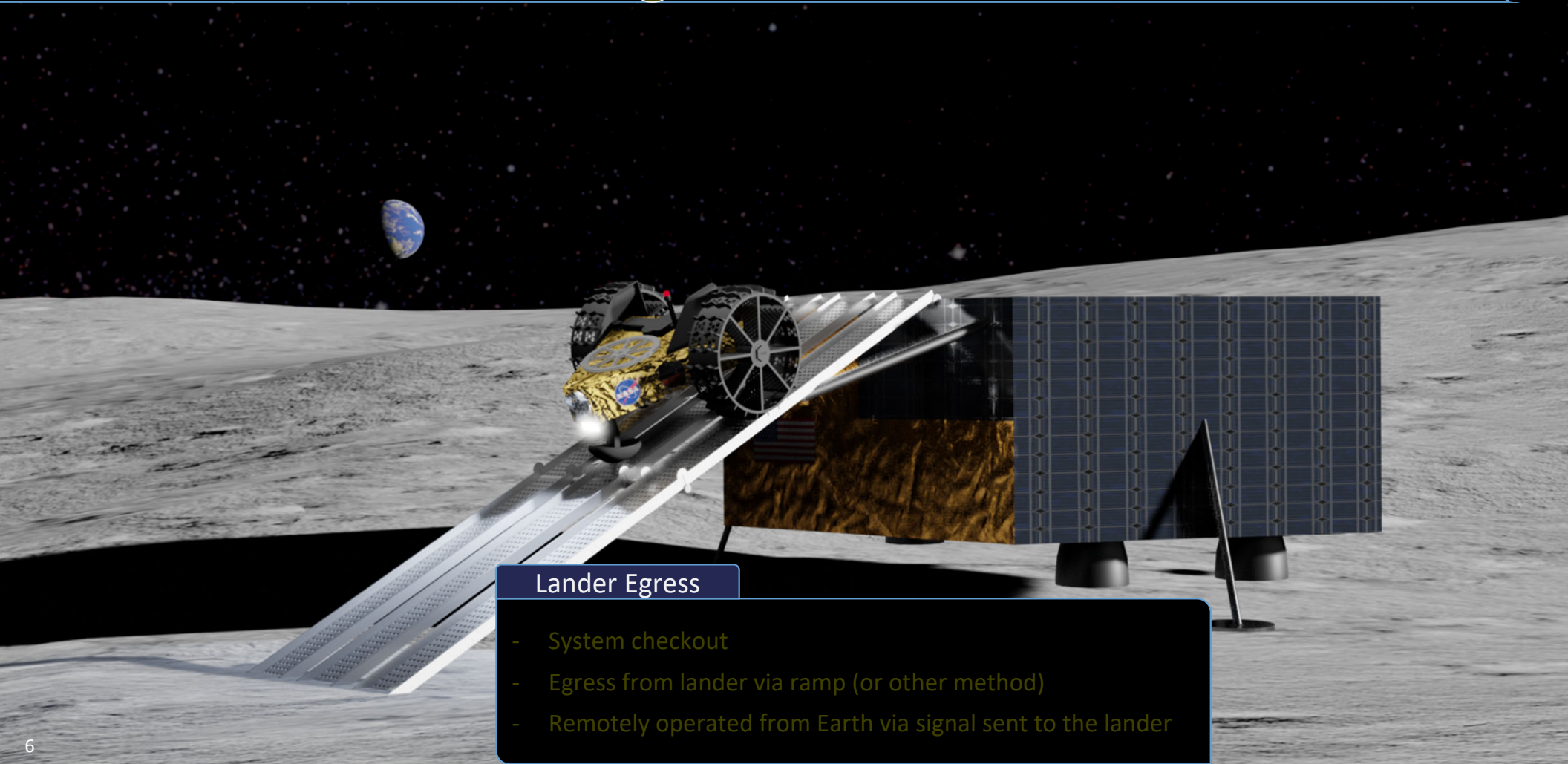


Mission Concept

Phase 1: Lander Egress



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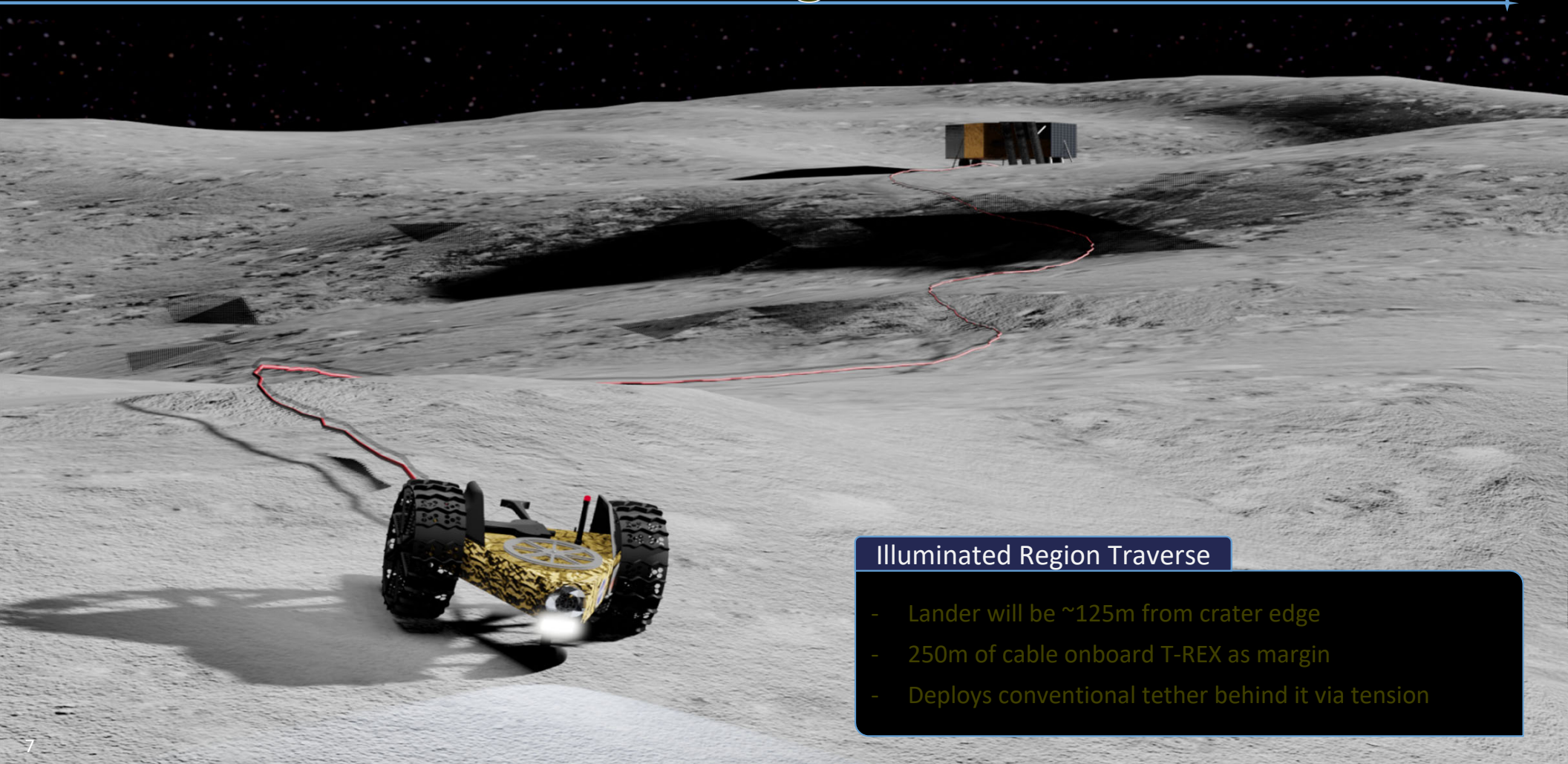
Lander Egress

- System checkout
- Egress from lander via ramp (or other method)
- Remotely operated from Earth via signal sent to the lander



Mission Concept

Phase 2: Illuminated Region Traverse



Illuminated Region Traverse

- Lander will be ~125m from crater edge
- 250m of cable onboard T-REX as margin
- Deploys conventional tether behind it via tension



Mission Concept

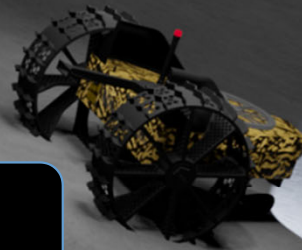
Phase 3: PSR Descent



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University

Permanently Shadowed Region Descent

- Climbs ~5-degree upward slope to crater rim
- Descends into crater and moves toward PSR
- Stops once in PSR to cool
- There's no sun or Earth line of sight: no solar power or RF comms. Is all done thru the cable





Mission Concept

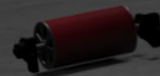
Phase 4: CCT Spool Ejection & SCT Unspooling



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University

Secondary Spool Ejection and SCT Unspooling

- Ejects Secondary Conventional Conductor Tether (CCT) spool.
- Begins unspooling Superconducting Tether (SCT) in series.
- The SCT is 0.2mm thick and can transfer kilowatts of power.
- This is possible because PSR's are incredibly cold and cool our tether.
- 2km of this tether has a 2kg mass – ultra light





Mission Concept

Phase 5: PSR Deployment and End of Life



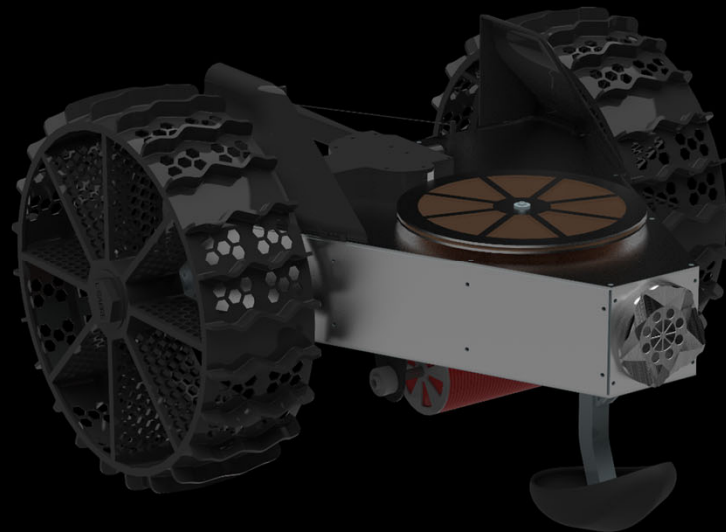
PSR Deployment and End of Life

- T-REX stops in relatively flat region.
- Other rovers in crater connect to our rover.
- We provide power and data so they can focus on their missions.
- We're a big fancy wi-fi router and power strip.
- Mission baselined to last 1 Lunar day (12-14 Earth days).

Testing Facilities Development

Michigan Technological University

Affiliated with the Michigan Space Grant Consortium





Planetary Surface Technology Development Lab – Dr. van Susante

Simulant Sandbox



Regolith Simulant Sandbox

- A facility designed to test how well a moon rover can move in moon dust.
- Filled with moon dust simulant produced in-house. Requires full body PPE to be in.
- Slope to simulate going down crater
- Autonomous gravity offload system above to make rover weight as if on Moon.



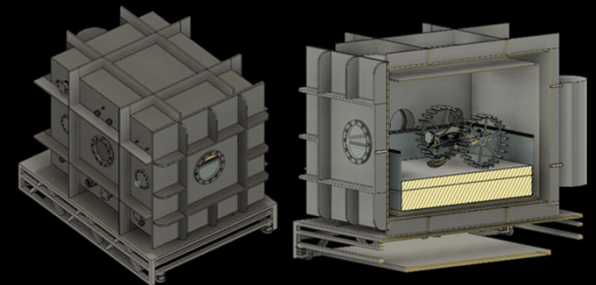
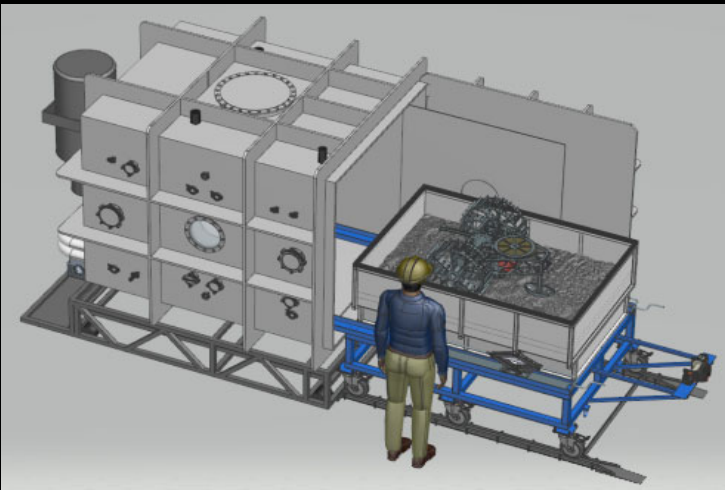
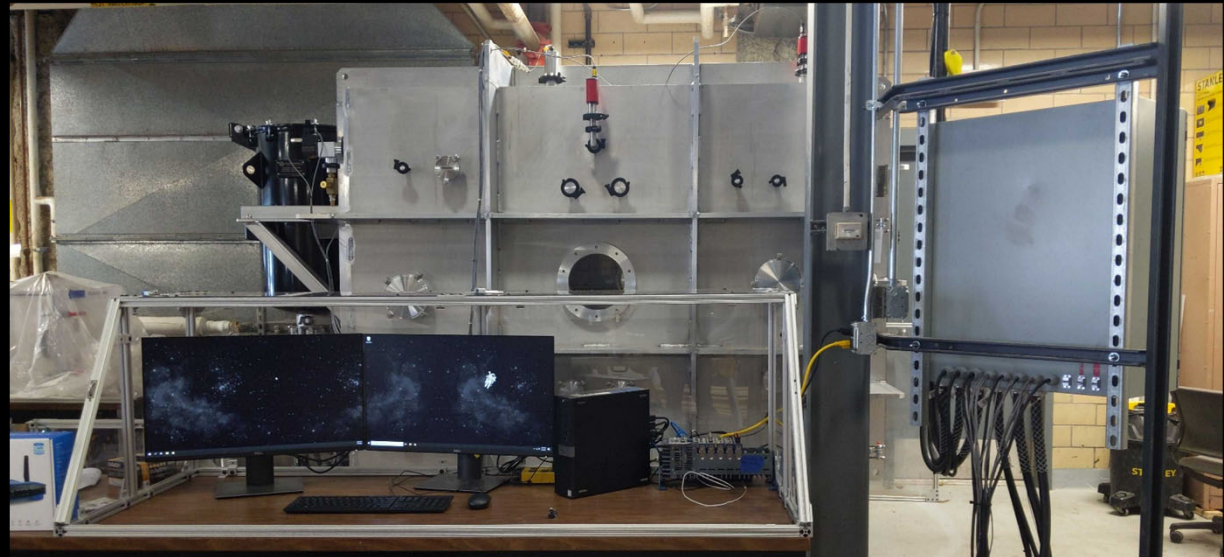


Dusty Thermal Vacuum Chamber (DTVAC)



DTVAC

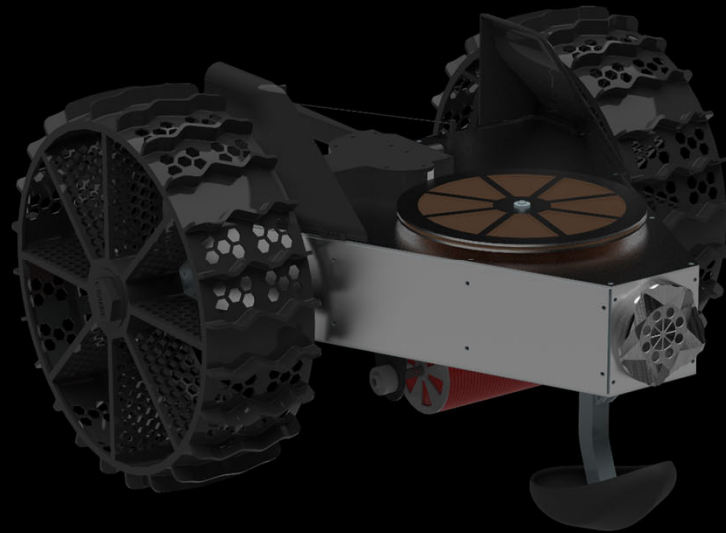
- A facility that simulates lunar temperatures and pressure to test rovers *in on Earth*
- Can support testing in Moon Dust
- Very rare facility in the US: *A lot of demand*
- Many aerospace companies and NASA lined up to do research with us using this facility
- Facility has gotten world-wide attention from lunar vehicle R&D community



Testing, Accomplishments, and Path Forward

Michigan Technological University

Affiliated with the Michigan Space Grant Consortium



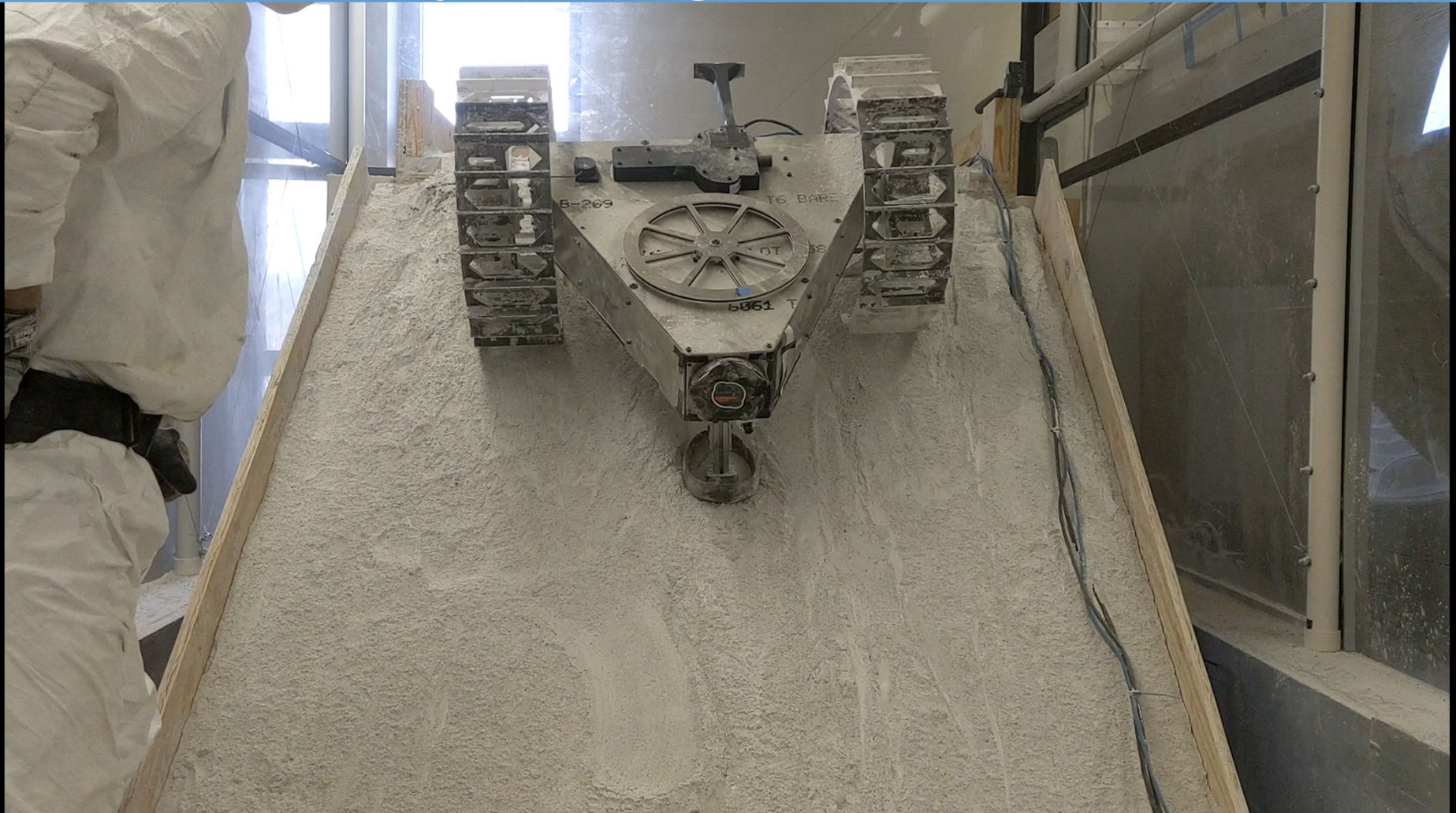


T-REX Software Q&A

Downhill Slope Testing



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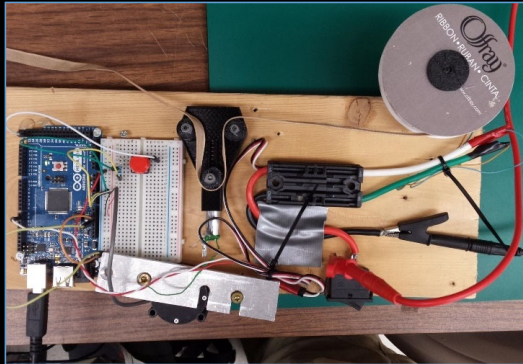


Conclusion and Path Forward

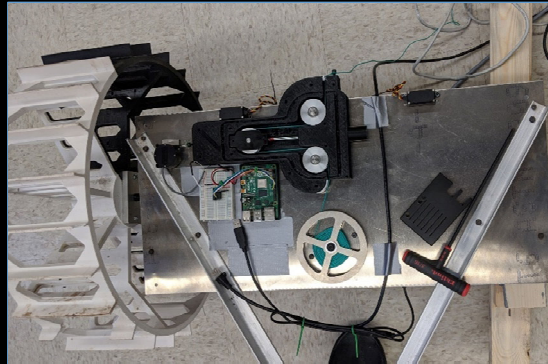
Accomplishment



Superconductor Tether Testing



Rover Development



Facility Development

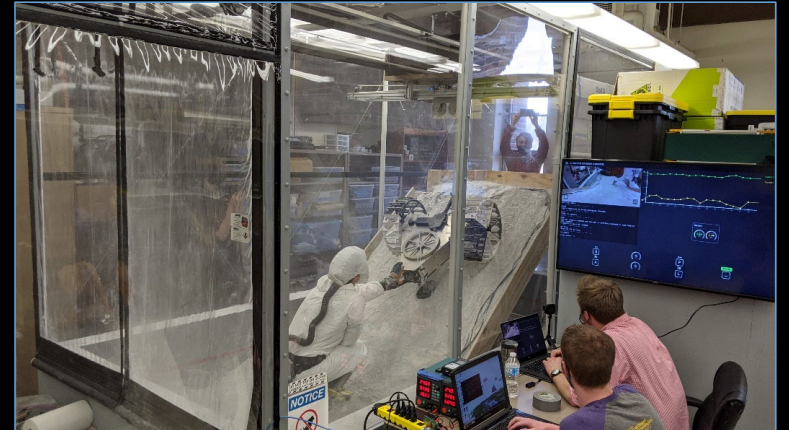


BEFORE

AFTER



Above: Tether in LN2 for data and power testing





Conclusion and Path Forward

Accomplishments



Jim Bridenstine, Administrator of NASA presenting MTU team with the **Artemis Award** for winning the 2020 Big Idea Challenge.

Summary of Accomplishments

- **We Made...**
 - Several prototype moon rovers
 - New testing facilities
 - Research papers
 - New technology
- **We won the 2020 BIG Idea Challenge**
 - 1st time competing
 - Against MIT and Ivy-League colleges
 - Had a younger team than most
- **We were awarded the following:**
 - Artemis Award
 - "Above and Beyond" Peer Award
 - "Fly Me to the Moon" Peer Award
- **Additionally...**
 - Established relations with NASA JPL
 - More opportunities to advance tech
 - Publicity



Conclusion and Path Forward

Future Development



Watts on the Moon Development

- T-REX is being modified for the NASA Watts On the Moon Centennial Challenge
- We are well-positioned for this Challenge
 - Phase I prize money, \$100k for first, \$50k for second place, 3 scenarios, Phase II TBD

TRANS



ASTRA

HONEYBEE ROBOTICS



NORTHROP GRUMMAN

JPL
Jet Propulsion Laboratory

SPACEBIT

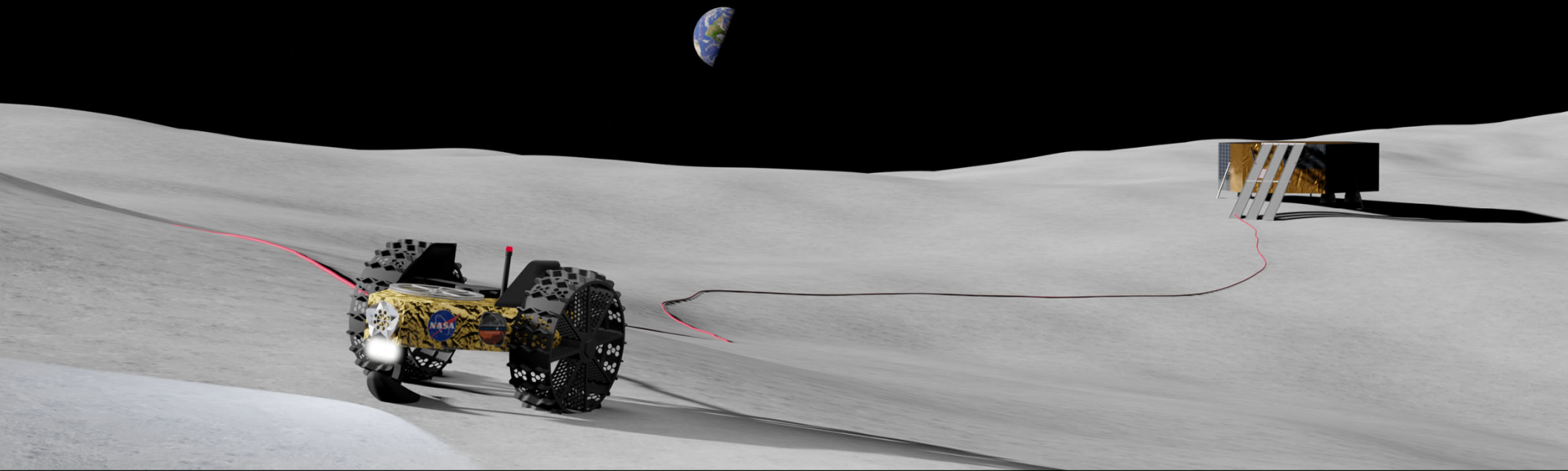


Industry Collaboration

- Discussing with industry partners to further advance technology and get on CLPS mission
- Getting ready for RFP (e.g. Tipping Point Proposal)
- NASA very interested in super conducting cable to provide power to water production pilot plant in 2028

- Continue 4 existing NASA funded projects
- Continue building network
- Multiple grants submitted
- Test bookings for actual CLPS missions later this year

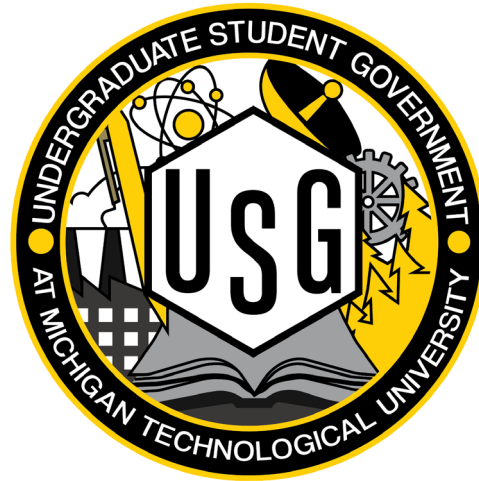
The Tethered permanently shadowed Region EXplorer (T-REX) Mission



IX-C. UNDERGRADUTATE STUDENT GOVERNMENT

Larkin Hooker-Moericke, President

Undergraduate Student Government Update



Larkin Hooker -Moericke, USG President
February 26th, 2021

Agenda

- USG Student Affairs Committee
- Supporting Underrepresented Students
- Looking Ahead

USG Student Affairs Committee



- Title IX Mock Trial
 - Led by Karina Madigan, Student Affairs Committee Member
- Fall Break Proposal
 - Led by Zofia Freiberg, Student Affairs Committee Chair
- Cycle Project
 - Partnership with Women's Leadership Council



Supporting Underrepresented Students



- Working in parallel and collaborating with Senate
- ~~GSG~~USG Committee on Supporting Underrepresented Students
- USG voted in abject support of the Senate regarding Resolution 41 -21 and actions thereof
 - Harley Merkaj read letter of support

Looking Ahead

- New USG Website (usgatmtu.mtu.edu)
 - Led by Karina Madigan, Public Relations Committee Member
- Kindness Campaign
 - Led by Jordan Craven, Public Relations Committee Chair
- Winter Carnival All -Nighter Crosswalk Volunteering
- Registered Student Organization (RSO) Budget Hearings - February 18th -21st
 - Led by Harley Merkaj, Treasurer
- 1UP Student Government Conference - February 27th
 - Yearly professional development conference with LSSU and NMU

Thank you!



IX-D. GRADUTATE STUDENT GOVERNMENT

Nathan Ford, President



Formal Session of the Board of Trustees - Agenda

Advocacy • Enrichment • Community

Graduate Student Government

Nathan Ford

February 25th 2020

Board of Trustees

Michigan Technological University



Formal Session of the Board of Trustees - Agenda

Agenda

- **Advocacy**
- **Enrichment**
- **Community**
- **Travel Grant Report**



Advocacy

Formal Session of the Board of Trustees Agenda

- **Health Insurance**
- **Daniell Heights Contract**
- **Parental Leave Policy**
- **Diversity and Inclusion**
- **Ad Hoc Committee on Child Care Resources**
- **Ad Hoc Committee on Transportation Concerns**
- **Experience Tech Fee**



Enrichment

Former Session of the Board of Trustees Agenda

Seminar Series

- **Publishing Your Research for Journals - 45**
- **Public Speaking**
- **Visa Issues and OPT for International Students**
- **Maximizing Conferences**

Graduate Research Colloquium

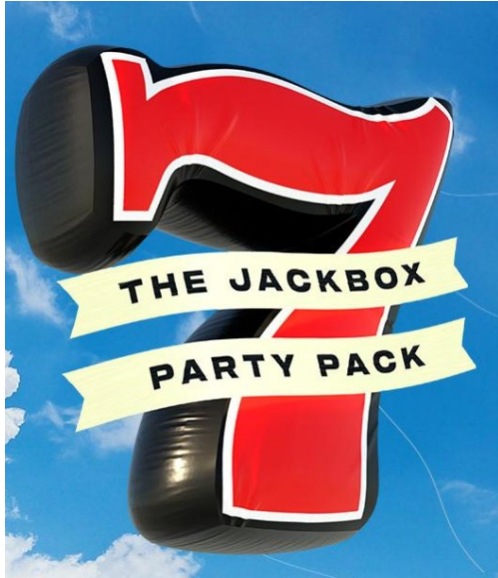
- **Poster Session - 4/1**
 - **Live Q&A 4-6 PM**
- **Oral Presentations - 4/1 & 4/2**
 - **Live 8 AM - 2 PM**
- **All presentations will be available on our website**





Community

Formerly a division of the Board of Trustees of Manipal University





Travel and Enrichment Grants

Travel Grant Stats (as of 2/5/21)

- **Total Applications : 26 (PhD - 16, MS - 10)**
 - **Presenting - 12 (PhD - 10, MS - 2)**
 - **Attending - 14 (PhD - 6, MS - 8)**

Career Enrichment Grant Stats

- **Total Applications : 9 (PhD - 2, MS - 7)**



Formal Session of the Board of Trustees - Agenda

Advocacy • Enrichment • Community



Thank You

IX-E. UNIVERSITY SENATE

Samuel Sweitz, President

University Senate Update

Sam Sweitz, Senate President

2/26/2021



Michigan Tech

Academic and Administrative Policy Proposals

Proposal 27-21: Revision to Policy 417.1 – “Graduate Grievances”

Proposal 35-21: Proposal to Establish Guidelines for Accelerated Graduate Certificates at Michigan Technological University

Proposal 42-21: Proposed Revision to Policy 710.1 [Unit Charters]

Proposal 43-21: Proposal to Update Senate Procedure 504.1.1: Teaching Effectiveness Evaluations

Proposal 45-21: Proposal to Update Senate Procedure 506.1.1 [Chair Reviews]

COVID-19 Related Proposals

Proposal 53-21: COVID Policies for Spring 2021

- i. Extended time to withdraw with a 'W'
- ii. Extended time to complete a course with an 'I'
- iii. Course retake policy (see also Proposal 54-21)
- iv. Pass / Low Pass / Fail Option
- v. Faculty Evaluations

Campus Community Efforts

Special Session of the Board of Trustees - Agenda

Proposal 1-21 Proposal to create a new Senate Standing Committee, the *Committee for Promoting and Facilitating Equity and Understanding*

Proposal 28-21 Proposal to Constitute an ad hoc Committee, the *Committee to Review Institutional Policy and Procedures for On-Campus Events*

Resolution 41-21 Embodying University Values: Condemning Hate Speech, White Supremacy, and Ethnically and Racially Motivated Intolerance

Report: Senate Ad-hoc Committee to Review Institutional Policy and Procedures for On-Campus Events

2/26/2021



Michigan Tech

X. INFORMATIONAL ITEMS

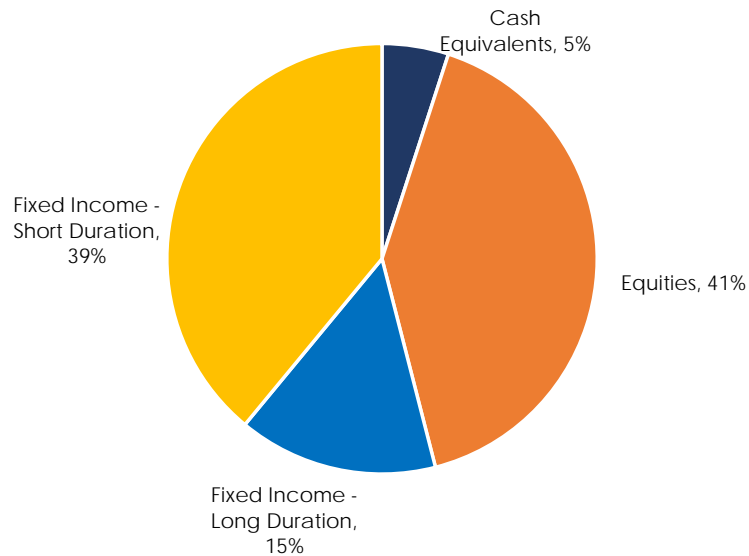
- A. Analysis of Investments
- B. Research & Sponsored Programs
- C. Advancement and Alumni Relations
- D. Media Coverage
- E. Employee Safety Statistics
- F. Disposal of Surplus Property Report

X-A. ANALYSIS OF INVESTMENTS

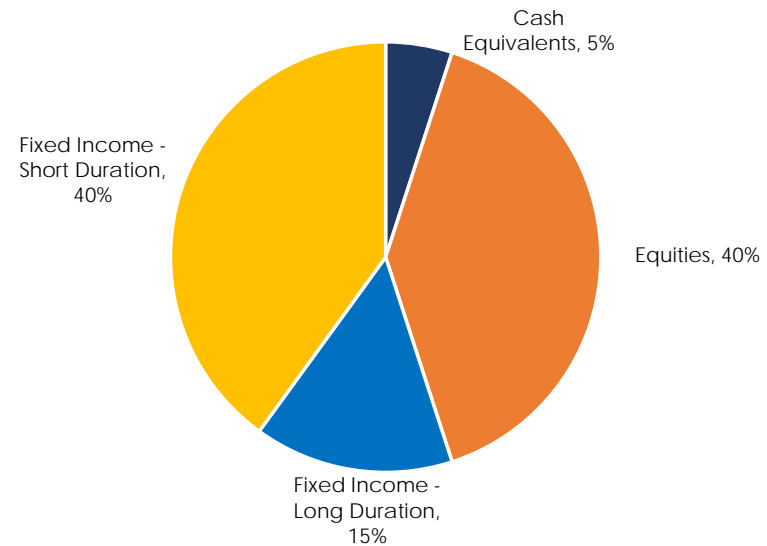
Formal Session of the Board of Trustees - Agenda
MICHIGAN TECH UNIVERSITY
INVESTMENT PORTFOLIO
JUNE 30, 2020 THROUGH DECEMBER 31, 2020

	Market Value 6/30/2020	Market Value 12/31/2020	Fiscal-Year Investment Return	Benchmark Return	Benchmark
Money Market Fund	\$ 1,987,852	\$ 2,098,068	0.02%	0.06%	<i>ICE BofA Merrill Lynch US T-Bill Index</i>
Equity Funds:					
Core Equity Fund	9,923,270	10,978,314	21.55%	22.16%	<i>S&P 500</i>
Commonfund Strategic Solutions Equity Fund	5,967,304	6,499,738	15.71%	22.16%	<i>S&P 500</i>
Total Equity Funds	<u>15,890,574</u>	<u>17,478,052</u>			
Fixed Income Funds:					
Intermediate Term Fund	8,254,386	8,490,681	0.74%	0.15%	<i>ICE BofA Merrill Lynch 1-3 Yr Treasury</i>
Commonfund Contingent Asset Portfolio	7,650,773	8,480,679	0.62%	0.15%	<i>ICE BofA Merrill Lynch 1-3 Yr Treasury</i>
High Quality Bond Fund	5,974,880	6,426,464	2.90%	1.29%	<i>Bloomberg Barclays US Aggregate Bond Index</i>
Total Fixed Income Funds	<u>21,880,039</u>	<u>23,397,824</u>			
Total	<u><u>\$ 39,758,465</u></u>	<u><u>\$ 42,973,944</u></u>	<u>8.35%</u>		

Current Asset Allocation



Target Asset Allocation



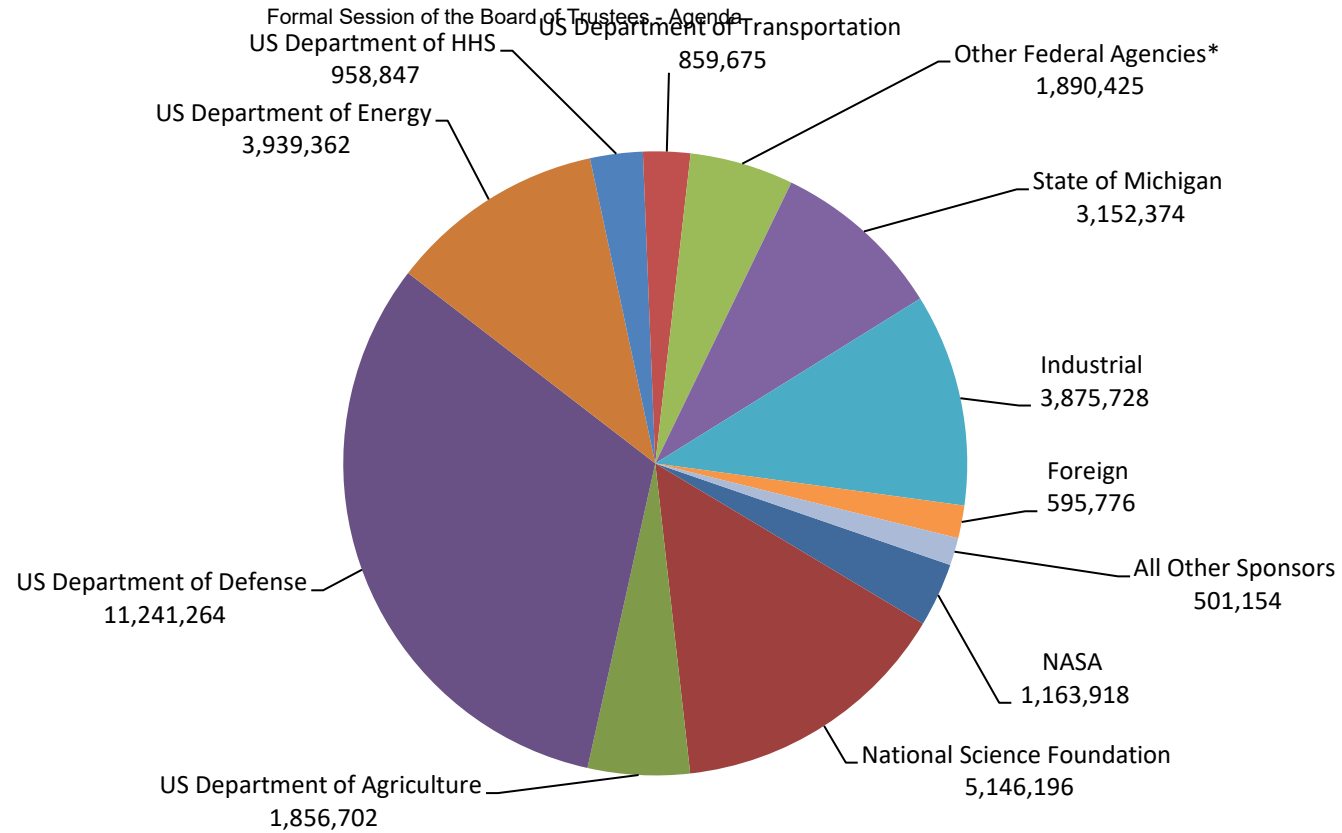
X-B. RESEARCH AND SPONSORED PROGRAMS

**Sponsored Awards
Fiscal Year 2021
2nd Quarter
Ended Dec. 31, 2020
TOTAL: \$36,940,691**

Pre-Proposals Submitted

(excluded from Proposals Submitted figures below)

**FYTD 2020: 28
FYTD 2021: 14**

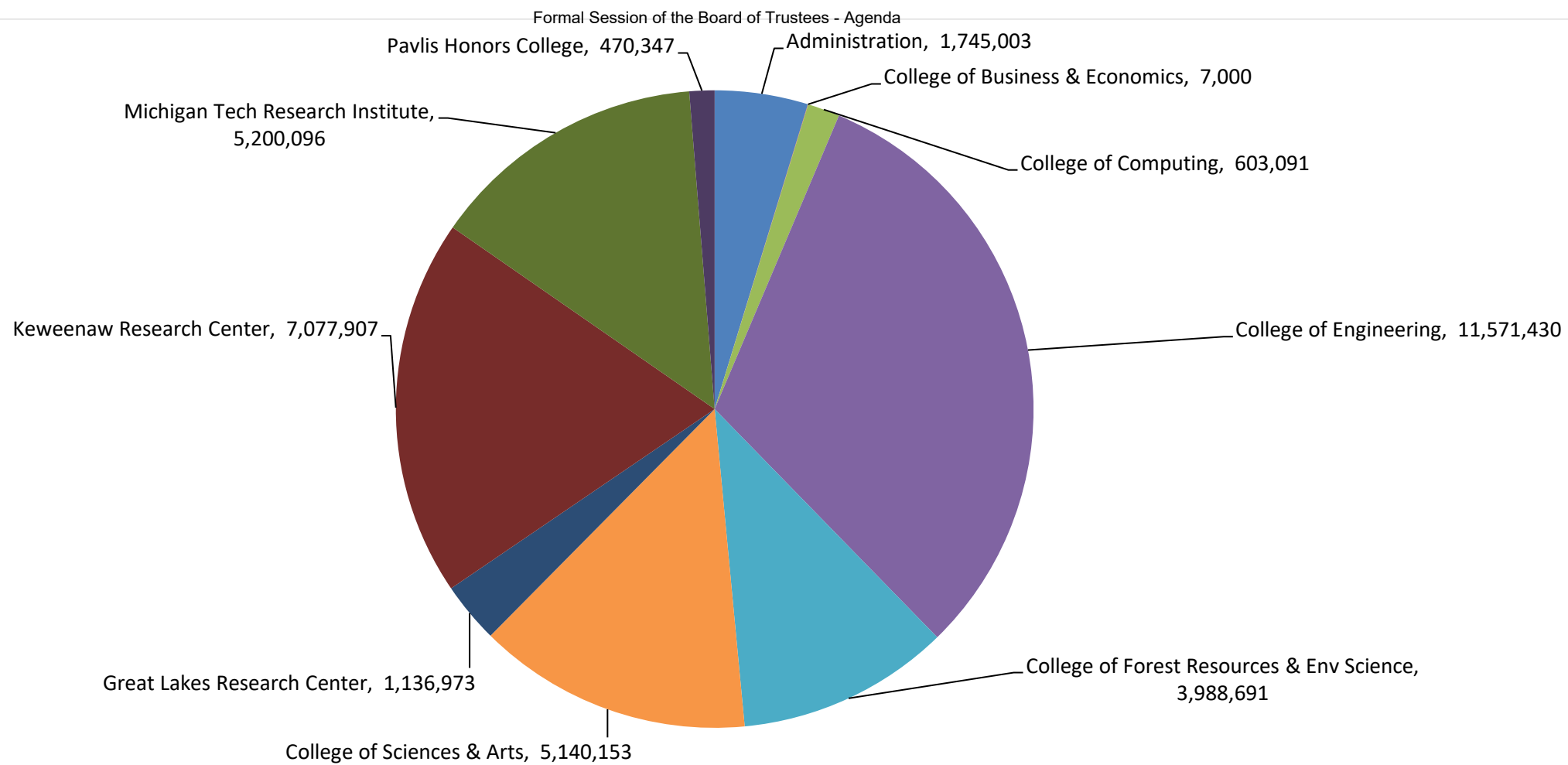


Sponsor	Proposals Submitted		Awards Received		Awards Received (\$)		Variance \$	Variance %
	FY '21 as of 12/31	FY '20 as of 12/31	FY '21 as of 12/31	FY '20 as of 12/31	FY '21 as of 12/31	FY '20 as of 12/31		
NASA	52	34	18	29	1,163,918	838,754	325,164	38.8%
National Science Foundation	63	75	22	37	5,146,196	7,146,821	-2,000,625	-28.0%
US Department of Agriculture	35	31	33	29	1,856,702	1,526,747	329,955	21.6%
US Department of Defense	61	53	55	47	11,241,264	5,875,607	5,365,657	91.3%
US Department of Education	1	2	-	2	-	55,554	-55,554	-100.0%
US Department of Energy	27	23	25	14	3,939,362	4,208,861	-269,499	-6.4%
US Department of HHS	28	21	5	7	958,847	2,169,440	-1,210,593	-55.8%
US Department of Transportation	6	4	4	7	859,675	1,187,813	-328,138	-27.6%
Other Federal Agencies*	24	21	21	26	1,890,425	1,971,770	-81,345	-4.1%
Federal Agency Total	297	264	183	198	27,056,389	24,981,367	2,075,022	8.3%
State of Michigan	31	28	19	16	3,152,374	3,844,912	-692,538	-18.0%
Industrial	108	115	77	82	3,875,728	3,818,245	57,483	1.5%
Foreign	7	13	9	7	595,776	94,198	501,578	532.5%
All Other Sponsors	42	52	21	25	501,154	251,973	249,181	98.9%
Subtotal	485	472	309	328	35,181,421	32,990,695	2,190,726	6.6%
Gifts**	N/A	N/A	122	133	1,751,120	1,638,114	113,006	6.9%
Crowd Funding	N/A	N/A	6	10	8,150	8,371	-221	-2.6%
Grand Total	485	472	437	471	36,940,691	34,637,180	\$2,303,511	6.7%

* US Dept of Commerce, US Environmental Protection Agency, US Dept of the Interior, National Endowments for the Arts & Humanities, US Dept of Labor, US Dept of State, US Dept of Homeland Security, US Dept of Justice, Office of the Director of National Intelligence

**Gifts represent non-contractual funding from corporations, foundations, associations and societies in support of academic programs, scholarships/fellowships, student design & enterprise, research, youth programs and special programs.

**Vice President for Research
Fiscal Year 2021
2nd Quarter
Ended Dec. 31, 2020
TOTAL: \$36,940,691**



Percentages of Tenured & Tenure Track Faculty (as either PI or Co-PI)

**Submitting Proposals since 07/01/2020
50.3%**

**On Active Projects as of 12/31/2020
59.6%**

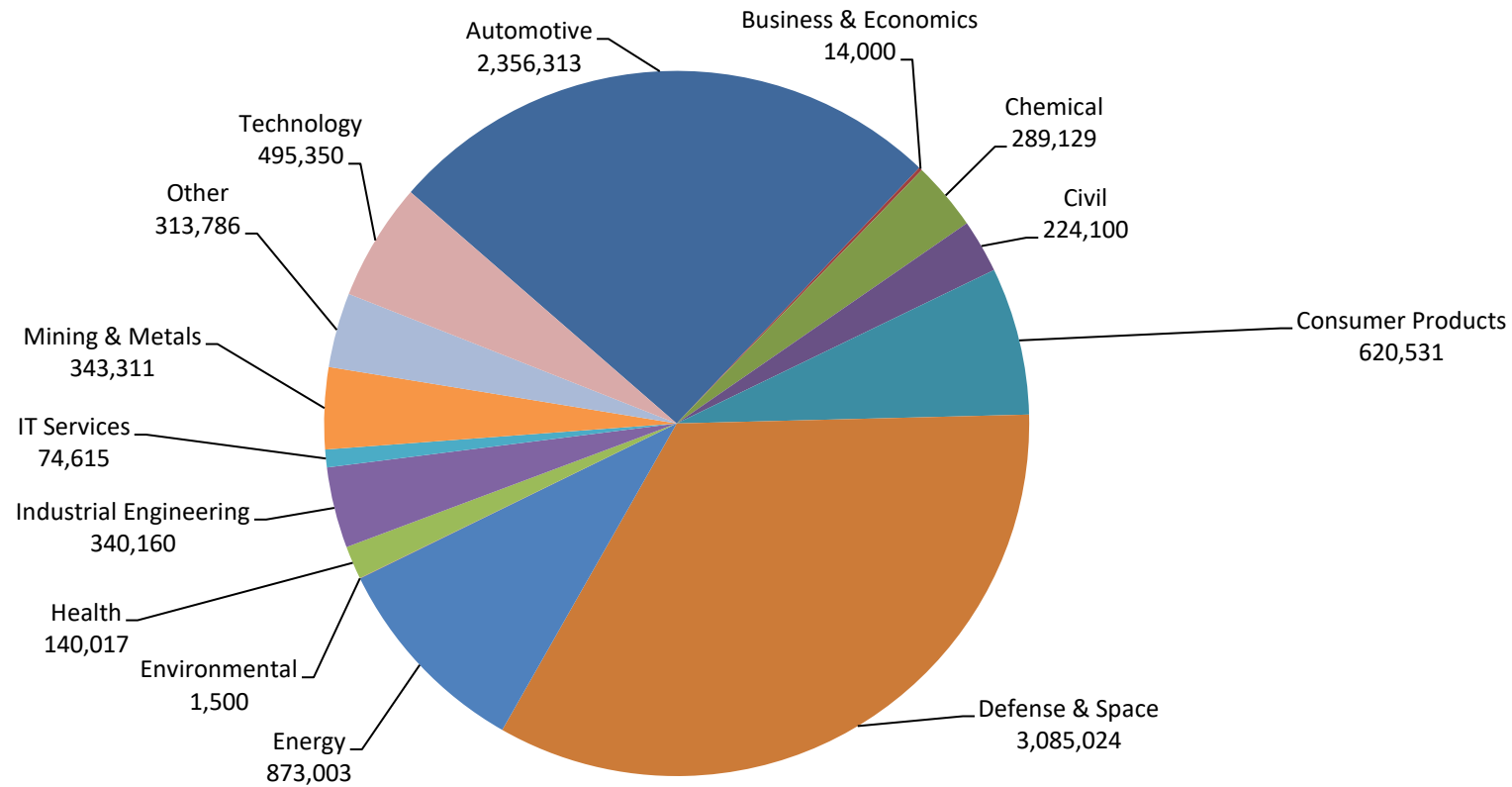
SPO & OIC Metrics ¹	Administration	College of Business & Economics	College of Computing	College of Engineering	College of Forest Resources & Env Science	College of Sciences & Arts	Great Lakes Research Center	Keweenaw Research Center	Michigan Tech Research Institute	Pavlis Honors College	Totals	Fiscal Comparison	Percent Change
Proposals Submitted	14	-	24	228	70	52	21	27	47	2	485	472	2.8%
Awards Received	51	2	10	164	68	41	14	24	40	23	437	471	-7.2%
Federal	2,091	-	-	5,617,804	2,715,311	4,411,905	749,801	5,054,682	1,760,062	311,247	20,622,903	17,308,130	19.2%
Federal Pass-Through	123,082	-	476,852	1,928,278	184,218	440,309	226,388	144,898	2,909,461	-	6,433,486	7,673,237	-16.2%
Foreign	-	-	-	1,971	30,000	48,119	-	-	515,686	-	595,776	94,198	532.5%
Gifts	812,889	7,000	9,000	482,822	220,123	52,686	1,500	6,000	-	159,100	1,751,120	1,638,114	6.9%
Crowd Funding	-	-	629	-	231	3,590	3,700	-	-	-	8,150	8,371	-2.6%
Industry	-	-	76,610	1,149,552	762,352	-	-	1,872,327	14,887	-	3,875,728	3,818,245	1.5%
Other	2,000	-	40,000	268,344	76,456	108,770	5,584	-	-	-	501,154	251,973	98.9%
State of MI	804,941	-	-	2,122,659	-	74,774	150,000	-	-	-	3,152,374	3,844,912	-18.0%
Total \$ by Division	1,745,003	7,000	603,091	11,571,430	3,988,691	5,140,153	1,136,973	7,077,907	5,200,096	470,347	36,940,691	34,637,180	6.7%
Fiscal Comparison	2,286,635	56,053	1,841,320	12,019,405	2,258,036	5,076,356	421,483	5,469,213	4,959,630	249,049	34,637,180		
Percent Change	-23.7%	-87.5%	-67.2%	-3.7%	76.6%	1.3%	169.8%	29.4%	4.8%	88.9%	6.7%		
Disclosures Received ²	-	-	-	77.78%	-	22.22%	-	-	-	-	9	17	-47.1%
Nondisclosure Agreements	6	-	3	23	-	1	5	6	-	-	44	44	0.0%
Patents Filed or Issued ²	-	-	-	76.47%	-	23.53%	-	-	-	-	17	14	21.4%
License Agreements	5	-	-	2	-	-	-	-	-	-	7	6	16.7%
Gross Royalties ²	33.33%	-	-	57.14%	-	9.53%	-	-	-	-	33,440	118,621	-71.8%

¹ Combined Metrics from both the Sponsored Programs Office (SPO) and Office of Innovation & Commercialization (OIC)

² Percentages reflect the proportional contribution from each Division (calculated by dividing the sum of the fractional contributions of all inventors for each unit by the total number of inventors).

**Sponsored Awards
-Industry-
COMBINED
Fiscal Year 2021
2nd Quarter
Ended Dec 31, 2020

TOTAL: \$9,170,839**



Industry Segment	Proposals Submitted		Awards Received		Awards Received (\$)		Variance \$	Variance %
	FY '21 as of 12/31	FY '20 as of 12/31	FY '21 as of 12/31	FY '20 as of 12/31	FY '21 as of 12/31	FY '20 as of 12/31		
Automotive	31	51	44	63	2,356,313	3,034,446	-678,133	-22.3%
Business & Economics	-	1	6	5	14,000	29,083	-15,083	-51.9%
Chemical	5	8	9	10	289,129	260,729	28,400	10.9%
Civil	3	4	18	7	224,100	193,079	31,021	16.1%
Consumer Products	30	9	24	18	620,531	398,984	221,547	55.5%
Defense & Space	24	16	30	27	3,085,024	1,523,913	1,561,111	102.4%
Energy	12	4	21	18	873,003	109,230	763,773	699.2%
Environmental	3	-	1	4	1,500	12,143	-10,643	-87.6%
Health	7	13	9	15	140,017	286,867	-146,850	-51.2%
Industrial Engineering	7	7	7	9	340,160	194,367	145,793	75.0%
IT Services	3	4	4	7	74,615	218,660	-144,045	-65.9%
Mining & Metals	9	11	18	23	343,311	208,539	134,772	64.6%
Other	3	3	19	10	313,786	136,738	177,048	129.5%
Technology	11	10	12	12	495,350	530,712	-35,362	-6.7%
Total	148	141	222	228	9,170,839	7,137,490	2,033,349	28.5%

*Gifts represent non-contractual funding from corporations, foundations, associations and societies in support of academic programs, scholarships/fellowships, student design & enterprise, research, youth programs and special programs.

**Gift numbers include Industry gifts ONLY, not others including Association or Society gifts.

Michigan Technological University
Total Research Expenditures by College/School/Division
Fiscal Year 2021 & 2020
As of December 31, 2020 and December 31, 2019

College/School/Division	FY2021	FY2020	Variance	%
Administration*	1,625,866	3,137,079	(1,511,213)	-48.2%
College of Business	738,287	729,140	9,147	1.3%
College of Computing	2,038,064	1,241,125	796,939	64.2%
College of Engineering	14,924,772	13,828,312	1,096,460	7.9%
College of Forest Resources & Environmental Science	2,510,327	2,328,983	181,344	7.8%
College of Science & Arts	6,797,793	6,598,817	198,976	3.0%
Great Lakes Research Center**	580,631	433,218	147,413	34.0%
Pavlis Honors College	283,559	187,196	96,363	51.5%
Keweenaw Research Center (KRC)	4,263,351	3,320,246	943,105	28.4%
Michigan Tech Research Institute (MTRI)	5,144,064	4,557,288	586,776	12.9%
Total	38,906,714	36,361,404	2,545,310	7.0%

*Includes the Vice Presidents, Provost, and others who report to a VP, Provost or the President. Except for the research institutes that report to the VPR.

**Includes GLRC department (non-academic researchers) expenditures only. All other GLRC center expenditures are shown in the researchers' respective colleges.

X-C. ADVANCEMENT AND ALUMNI RELATIONS

Welcome to the new 2021 Michigan Tech Board of Trustees members.

Advancement and Alumni Engagement - Vice President Dr. Bill Roberts

We cultivate donor relationships, engage alumni and friends in the life of Michigan Tech, provide support and resources to others involved in fundraising, and secure the philanthropic support needed to advance the mission and goals of the University. Our philanthropic agenda is closely aligned with University goals and defined by priorities, benchmarks, and metrics.

Principal Giving - AVP Eric Halonen

Principal Giving works in partnership across the University to secure gifts at the \$1 million and above level for the colleges, departments and the University at large. We engage, cultivate, solicit and steward the University's top prospects in collaboration with the President, the Vice President for Advancement and Alumni Engagement, the Provost and Senior Vice President, the Deans and Chairs, the Directors of Advancement and Advancement Officers. We drive the creation of informed, long-range strategies for Principal Giving Prospects—taking into consideration their interests and bridging them with University needs. We work with campus partners to translate and shape large fundable ideas into gift opportunities for our most capable donors and prospects.

Advancement and Gift Planning - AVP Karla Aho

Advancement and Gift Planning includes Annual Giving, Major and Planned Giving, Market Development, and Corporate and Foundation Relations. The charge of this unit is to engage a continuum of donors and ensure continuity in the fundraising effort while maximizing growth and resources while strengthening the fundraising infrastructure and donor pipeline in preparation for principal gifts and a capital campaign.

Advancement: The Advancement team is frontline fundraisers engaging and soliciting alumni and friends at the \$25,000+ major gift level. Colleges and other units are represented through the major gift team.

Gift Planning: The Gift Planning team continues to focus on lead generation, donor education about the benefits of giving under tax law and manages the \$181 million planned giving registry.

Annual Giving: The Annual Giving team raises gifts of under \$25,000 to support all University departments, programs and initiatives with a special focus on the Annual Fund, an unrestricted gifts program for where the need is greatest.

Corporate and Foundation Relations (CFR): The CFR team Goal builds long-term partnerships, increases major gift capacity, and engages highly placed alumni and friends at corporations and foundations with University leadership.

Donor Relations & Alumni Engagement - AVP Paula Nutini

The Office of Donor Relations and Alumni Engagement focuses on creating high-quality interactions between Michigan Tech and its alumni and friends and providing stewardship at all levels.

Advancement Services - AVP Brenda Rudiger

The Advancement Services team provides essential infrastructure and technical support to position Advancement and Alumni Engagement for success in relationships with alumni, donors, potential donors, volunteers, and friends. These support services include alumni and donor communications, advancement research, gift processing, and the development, management and maintenance of alumni and donor constituent information storage and delivery systems.

Formal Session of the Board of Trustees - Agenda
Advancement and Alumni Engagement
Michigan Tech University Board of Trustees
February 26, 2021

2020-2021 Goals and Initiatives to be achieved in collaboration with administrative and academic leadership and the Michigan Tech Fund Board of Directors.

- Set a goal to grow the endowment by ____ percent over ____ number of years
- Engage alumni, principal and major gift donors and corporate/foundation partners in a virtual environment
- Identify and cultivate principal gift donors for the Institute for Policy Ethics and Culture
- Strengthen our partnership with the Deans and academic units as Advancement further refines our fundraising initiatives

Highlights

Celebrating a successful first year under VP Roberts' organizational plan despite constraints related to the coronavirus and economy.

Have seen endowment Growth year to date through new gifts and investment returns.

Revisiting campaign preparation with the RFP for a feasibility study ready to go.

Cross training staff to meet division needs while operating at maximum capacity.

Fundraising total as of January 31, 2021

\$10,627,756 in planned gifts

\$3,308,856 in realized planned gifts

\$3,312,676 in major gifts

\$1,843,612 in annual gifts

\$4,520,113 in corporate and foundation gifts

58 illustrations, proposals, and gift agreements were provided for donors

42 executed gift agreements

As of February 2, 2021, 202 employees have donated over \$96,900 to the Campus Campaign, a participation rate of 15%.

Donor Relations staff are acknowledging an abundance of new gifts between December 28 and 31 which totaled \$925,000.

Recent Action:

- The Endowment Growth Committee, in consultation with Graystone, has conducted research and analysis, including benchmarking, to consider how the three major components of endowment growth: new gifts, investment growth, and spending, impact the growth of the endowment.
- Frontline fundraisers continue to be nimble and responsive in engaging, cultivating and closing the majority of gifts remotely, documenting several principal and major outright and planned gifts totaling over \$13 million, with \$50 million in discussion with donors.
- Directors of Advancement are expanding their portfolios to include corporate fundraising to assist in maintaining and increasing engagement with a smaller Corporate and Foundation team.
- In response to limited travel due to COVID and budgets, Market Development has further developed our internal Recency-Frequency-Capacity (RFC) modeling criteria and identified 220 qualified donors within driving distance in the Upper Peninsula and the corridor from Eau Claire, WI to the Twin Cities.
- The Corporate and Foundation Relations team are coordinating virtual meetings with VP Roberts and executive champions at 3M, Kimberly-Clark, Whirlpool, and Corteva, working with a renewed emphasis on philanthropic partnerships.
- The Thompson Foundation has expanded its commitment to provide scholarships to students from working families.
- Engaged 1,500 alumni through the Michigan Tech Mask Initiative and hosted virtual happy hours and trivia nights.
- Planning for the alumni reunion scheduled for August 2021 is underway with contingency plans based on social distancing requirements.
- Advancement services is providing analysis on donor retention and appeal effectiveness.
- VP Bill Roberts has met with the deans early in 2021 to discuss Advancement Plan progress and giving priorities.
- Implementing an advancement transition plan for College of Computing from Dean Minerick to Dean Livesay.
- Establishing a new fundraising strategy with Dean Hemmer for College of Sciences and Arts.
- Building a new pipeline of donors, while also bringing in significant in-kind gifts in the College of Engineering.
- Hosting virtual College of Forest Resources and Environmental Science Academy meetings via Zoom.
- Hosted virtual donor sponsored Bob Mark Business Model Competition and College of Business major donor/alumni participation in the Husky Innovate: Private Equity and Innovation alumni panel talk.
- Establishing a pipeline of annual and new mid-level donors for the Graduate School.
- Completed Phase II of the Football Stadium expansion project and focused on fundraising for a 100 Years of Hockey endowment and a new floor in the Wood Gym.

- Finalized a \$4 million endowed scholarship with the Dean of the College of Sciences and Arts.
- Finalized an outright gift for an endowed faculty position in the department of Geological and Mining Engineering and Sciences with a focus on Mining.
- Working with the deans of College of Sciences and Arts, College of Business, College of Forest Resources and Environmental Science, and College of Engineering to cultivate and close seven plus figure individual gifts, including three former MTF and MTU board members.
- Received the final installment of a \$623K gift for the new 3D metal printer in ME-EM.
- Secured a pledge and planned gift totalling \$500,000 as the first challenge gift for the Hockey Centennial Challenge Campaign.
- Keeping abreast of potential tax changes that may influence giving by the new Biden administration.
- Increased Gift Legacy engagement from 10% to 20% by segmenting markets and sending messages from deans and unit directors.
- President Koubek featured in the Annexstad Annual Report and Michigan Tech in their 20th year anniversary video.
- In response to large foundations shifting toward economic equality and social justice, we are actively positioning Michigan Tech to be a leader in areas of strength.
- Thompson Foundation increased cohort size to 10 students for Fall '21. Moves total pledge from \$990,000 to \$2,340,000.
- Awaiting final word on \$3M Alfred P. Sloan Foundation grant in March.
- On-boarded new Ford-Michigan Tech executive liaison, Ken Leisenring; introductions with Dean Callahan and Corporate Council.
- Working with Dow in pursuit of two proposals: NDA signed to explore partnership leveraging Mechanical Engineering and Chemical Engineering expertise; high-level discussion exploring sponsorship of new artificial turf for Kearly Stadium Project.

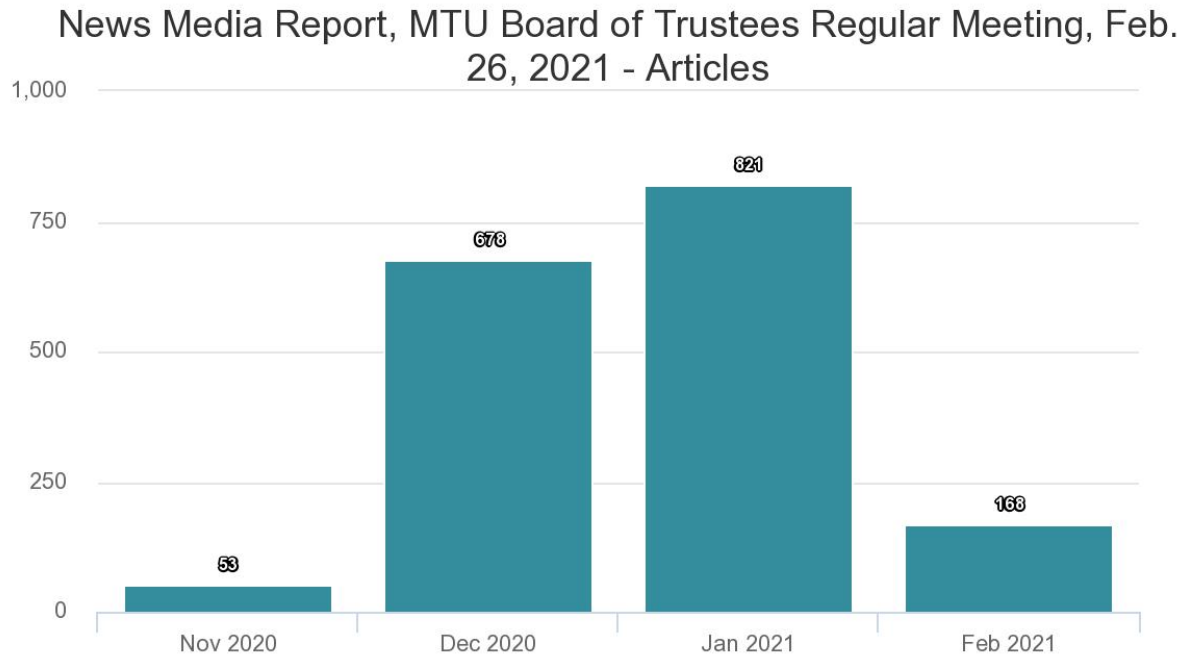
X-D. MEDIA COVERAGE

Media Report: November 25, 2020 to February 5, 2021
 Michigan Technological University
 Regular Meeting of the Board of Trustees
 February 26, 2021

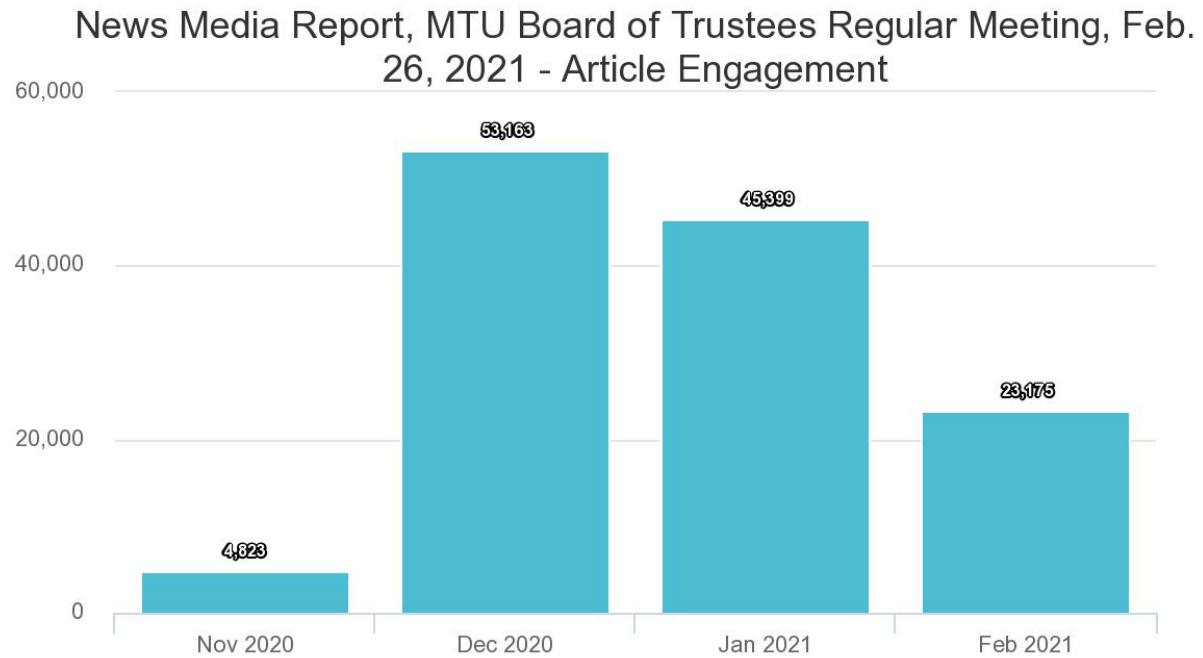
Overview

Articles	1,720
Total engagement	~ 126.56K
Average engagement	73
Journalist shares	796
Journalist reach	~ 6.96M
Average unique visitors per month (UVM)	~ 3.57M
Total UVM	~ 6.13B

Between November 25, 2020 and February 5, 2021, a total of 1,720 online articles mentioned Michigan Technological University:

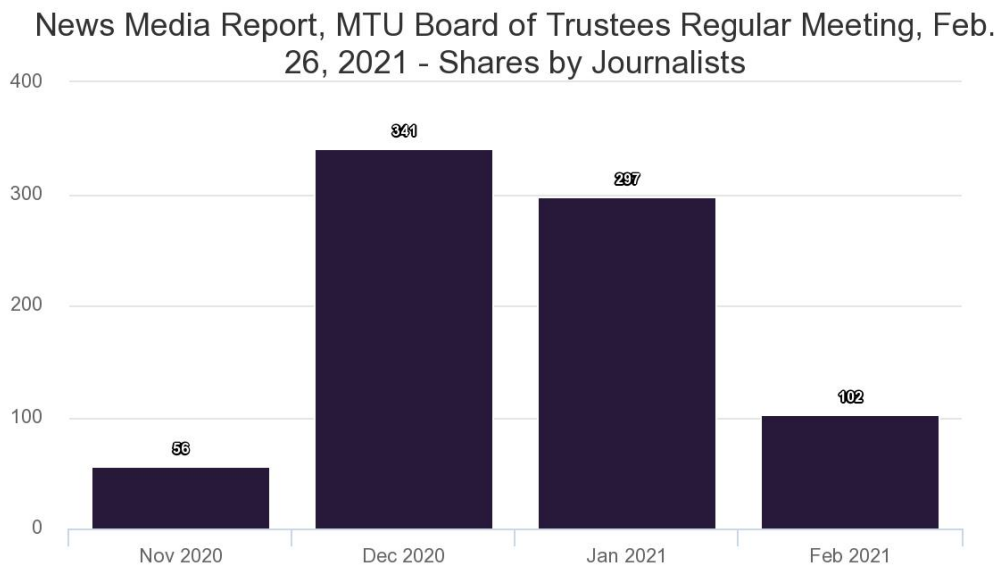


Those 1,720 articles were shared, commented on, or liked social media more than 126,560 times, for an average engagement of 73 shares, comments, or likes per article:

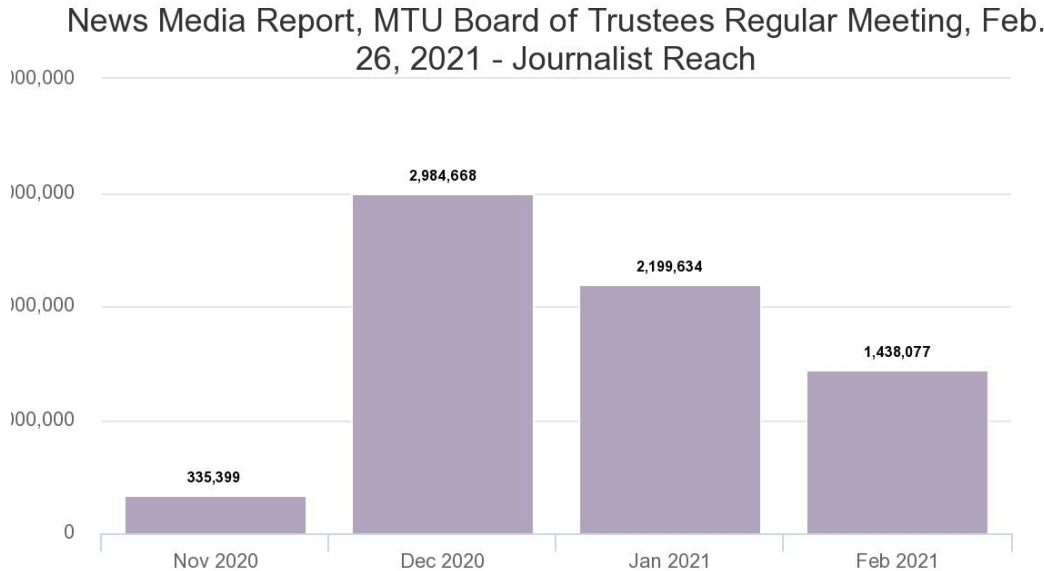


MUCK RACK

Journalists shared the articles on Twitter 796 times, resulting in a reach of nearly 6.96 million people:



MUCK RACK



MUCK RACK

News Highlights:

General and Research News (non-COVID)

Michigan Tech robotics team continues to work on moon rover:

- <https://www.uppermichiganssource.com/2021/01/13/michigan-tech-robotics-team-continues-work-on-moon-rover/>

How this 'End of Earth: 2 miles' road sign became a part of Upper Peninsula lore

- <https://www.mlive.com/news/2021/01/how-this-end-of-earth-2-miles-road-sign-became-a-part-of-upper-peninsula-lore.html>

Hubble's Beautiful Pictures and the Long View

- <https://www.theatlantic.com/science/archive/2020/12/hubble-pictures/617251/>

Tomorrow's Talent: Virtual Job Shadowing Initiative

- <https://www.upmatters.com/news/local-news/tomorrows-talent-virtual-job-shadowing-initiative/>

MTU Flex and COVID-19-related News

MTU puts research to work fighting viruses locally, globally:

- <https://www.mininggazette.com/news/2020/12/mtu-puts-research-to-work-fighting-viruses-locally-globally/>

Michigan Tech shares preliminary results of waste water testing for COVID-19:

- <https://www.uppermichiganssource.com/2021/01/11/michigan-tech-shares-preliminary-results-of-waste-water-testing-for-covid-19/>

Pandemic interrupts longtime Isle Royale wolf, moose study

- <https://news.yahoo.com/pandemic-interrupts-longtime-isle-royale-134505047.html>

Missing Your Loved Ones Over the Holidays? International Students Offer a Few Lessons

- <https://www.npr.org/2020/12/19/945026863/missing-your-loved-ones-over-the-holidays-international-students-offer-a-few-les>

X-E. EMPLOYEE SAFETY STATISTICS

	Category	Years	Employee Classification							Total
			AFSCME	Faculty	Non-Exempt	POA	Professional	Temporary	UAW	
Number of Recordable Injuries	Injury Only w/Medical - No Lost Time	2019	3	1	0	0	1	0	1	6
		2020	6	0	0	0	1	0	1	8
	Lost Time Cases	2019	11	3	0	0	4	0	0	18
		2020	5	1	0	0	2	0	0	8
	Restricted Work Cases	2019	3	0	0	0	0	0	1	4
		2020	2	0	0	0	0	0	0	2
	Occupational Safety and Health Administration (OSHA) Recordable Injuries (Total of above)	2019	17	4	0	0	5	0	2	28
		2020	13	1	0	0	3	0	1	18
Number of Days	Injury Lost Time 3	2019	103	42	0	0	83	0	0	228
		2020	60	12	0	0	64	0	0	136
	Restricted Work Days 3	2019	398	46	0	0	170	0	13	627
		2020	273	0	0	0	0	0	0	273
Hours Worked	Total Work Hours	2019	278,569	774,419	134,864	18,842	1,121,899	52,602	214,512	2,595,707
		2020	224,899	789,833	122,724	17,679	1,143,383	49,947	180,325	2,528,790
	Percentage of Work Hours	2019	10.7%	29.8%	5.2%	0.7%	43.2%	2.0%	8.3%	100.0%
		2020	8.9%	31.2%	4.9%	0.7%	45.2%	2.0%	7.1%	100.0%
Rates	Lost Time Case Rate 1	2019	7.9	0.8	0.0	0.0	0.7	0.0	0.0	1.4
		2020	4.4	0.3	0.0	0.0	0.3	0.0	0.0	0.6
	Frequency Rate 2 (Recordable)	2019	12.2	1.0	0.0	0.0	0.9	0.0	1.9	2.2
		2020	11.6	0.3	0.0	0.0	0.5	0.0	1.1	1.4

OSHA has established specific calculations that enable the University to report the Recordable Injuries, Lost Time Case Rates and Frequency Rates. The Standard Base Rate (SBR) calculation is based on a rate of 200,000 labor hours which equates to 100 employees who work 40 hours per week for 50 weeks per year. Using the SBR allows the University to calculate their rate(s) per 100 employees.

- 1 The Lost Time Case Rate is calculated by multiplying the number of Lost Time Cases by 200,000 then dividing by the labor hours at the University.
- 2 The Frequency Rate is calculated by multiplying the number of recordable cases by 200,000 then dividing by the labor hours at the University.
- 3 The number of days are total days for the life of the cases first reported during this period.

The Bureau of Labor Statics 2019 reports, for Colleges and Universities over 1,000 employees; the average LOST TIME CASE RATE of days away from work was 0.7 and the average FREQUENCY RATE was 1.6.

X-F. DISPOSAL OF SURPLUS PROPERTY

**Michigan Technological University
Surplus Property Sales
January 1, 2018 - December 31, 2018**

Date	Description	Amount
02/12/18	HP Ink Cartridges / 564 XL	\$ 11.61
02/12/18	HP Ink Cartridges / 564 XL	11.11
02/12/18	HP Toner Set - HP 643A	200.00
02/12/18	Black HP 643A Toner - Q5950A	65.00
03/08/18	LC X venture - AT&T	105.05
03/14/18	3.5" Seagate Barracuda 160 GB Internal Drive	51.00
04/03/18	Vickers Portable Hydraulic Trainers (5)	2,500.00
06/04/18	Hockey Treadmill, Frappler Acceleration Model# AIV1004	5,000.00
06/06/18	Mixer Hobart	1,000.00
07/10/18	Aspen FACE equipment	11,713.22
09/07/18	Verizon iPhone 6 - 16 GB	152.50
09/08/18	Verizon iPhone 6S - 64 GB	192.00
09/10/18	Verizon iPhone 6 - 16 GB	150.00
09/10/18	Verizon iPhone 6 - 64 GB	152.50
09/14/18	Verizon iPhone SE - 16 GB	93.00
09/25/18	2012 Freightliner, M2 112, Truck Tractor	24,687.68
09/28/18	AT&T iPhone 6 - 16 GB	90.00
10/12/18	Used Spectrometer, Spectro 5273	943.40
10/15/18	AT&T Samsung Galaxy S7 Edge	76.00
10/18/18	AT&T Samsung Galaxy 7 - 32 GB	157.50
10/19/18	AT&T iPhone 5 - 16 GB	31.00
10/19/18	AT&T iPhone 5s - 16 GB	50.00
10/20/18	AT&T iPhone 6 - 16 GB	120.00
10/20/18	AT&T iPhone 6 - 16 GB	120.00
10/22/18	Verizon iPhone 6s Plus - 32 GB	180.00
10/22/18	Verizon Samsung Galaxy 7 - 32 GB	152.50
10/29/18	2006 Mercury Grand Marquis	500.00
11/07/18	Verizon iPhone 6S - 32 GB	150.50
Total		\$ 48,655.57

**Michigan Technological University
Surplus Property Sales
January 1, 2019 - December 31, 2019**

Date	Description	Amount
02/04/19	Wild T1 Optical Theodolite	\$ 100.00
03/14/19	Tripod & Level Rd	25.00
04/01/19	AT&T Samsung Galaxy 7 - 32GB	130.00
04/01/19	AT&T iPhone 6 Plus - 128 GB	260.99
04/15/19	Verizon iPhone 6s - 32GB	140.00
05/07/19	Lietz B-2A Auto Level	66.00
05/07/19	Wild T1 Optical Thedolite w/EDM mount (c. 1970's)	133.00
05/07/19	Wild T1 Optical Thedolite (c. 1960's)	88.00
06/05/19	Ionex X-bsr II Vacuum/Pressure Sintering Furnace	2,938.00
06/06/19	Group Sale:	1,300.00
	Boat 18' Alaskan Lund, #MC3748PB	
	Boat Trailer, Shoreline V19, #099x524- Used	
	Outboard 50 hp Evinrude W/Oil Injection	
	Boat Trailer, 2 Wheel, #069x620	
06/27/19	2013 Ford Police Interceptor, Black	350.00
07/11/19	4-Way Neck (Hammer Strength Neck Extension Machine	200.00
08/20/19	Boat 14' Lund '93 w/15 hp Evinrude, #MC4710PB (Isle Royale)	200.00
09/08/19	Lawn Mower Cub Cadet 16 hp Model 2166 Kohler OHV	6.00
09/17/19	Ford E350 Step Van	75.00
10/03/19	2005 Ford E350 Van 12-Passenger - Toredor Red	60.00
10/03/19	2001 Ford Super Duty XLT 8 Passenger Van	60.00
10/03/19	2008 Dodge Grand Caravan - Dark Blue	60.00
10/31/19	1996 Chevrolet Astro Van	60.00
10/31/19	1997 Dodge Ram Van	60.00
Total		\$ 6,311.99

**Michigan Technological University
Surplus Property Sales
January 1, 2020 - December 31, 2020**

Date	Description	Amount
01/03/20	Chromatograph Gas GOW-MAC Model 580 (2)	\$ 970.00
01/06/20	AT&T iPhone 7 - 128 GB	161.00
01/06/20	AT&T iPhone 6 Plus - 64 GB	135.00
01/07/20	Verizon iPhone 7 - 128 GB	187.00
07/23/20	Juniper MX480 Routing Platform - Purch. July 2015	6,000.00
07/28/20	Nerve Traffic Analysis System	1,000.00
11/13/20	Environmental Chamber, Thermotron	700.00
Total		\$ 9,153.00

XI. Other Business

XII. Date for Next Formal Meeting: April 30, 2021

XIII. Adjourn