SPECIAL GUEST: ASTRONAUT ANDREW FEUSTEL  KEYNOTE SPEAKER: DOCTOR SLIME

http://www.umflint.edu/k12
Welcome to the University of Michigan-Flint!

As the Provost at the University of Michigan-Flint, I am delighted to welcome you to our campus for a day of experiential learning! Today, at the 9th Annual Super Science Friday, you will be joining over 800 Genesee County middle school students as they explore and learn more about the wonderful world of science.

Since December, the University of Michigan-Flint faculty, staff and students have been working diligently to create thirty interactive workshops that will excite you about science. During your time with us, you may explore the properties of matter, learn about alternative energy, direct a robot or find out how crime fighters use science in their investigations. The presenters are all looking forward to answering your questions about their sessions and our university.

This year’s Super Science Friday will feature a special presentation called “The Magic of Chemistry” by Dr. Slime. Michael T. Garlick performs as Dr. Slime, a flamboyant green haired, scientist archetype character whose performances are styled to excite, educate and entertain. We are also very pleased to welcome Astronaut Andrew Feustel to our event this year! Drew is originally from the state of Michigan and has flown on both the Space Shuttle Atlantis and Endeavour.

We are confident you will learn new and exciting things about science during your time with us today and hope that you will be inspired to include science in your future plans. While you are years away from entering the work force, careers in science are varied and exciting! Perhaps you could invent an alternative fuel source, cure a disease or design a probe that will explore outer space. The possibilities are only limited by your imagination!

Have a wonderful day and GO BLUE!

Barbara Dixon, Ph.D.
Interim Provost and Vice Chancellor for Academic Affairs

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Andrew (Drew) J. Feustel was born August 25, 1965, in Lancaster, Pennsylvania and is both an American geophysicist and a NASA astronaut. He grew up in Lake Orion, Michigan, where he graduated from Lake Orion High School, followed by an Associates Degree from Oakland Community College, and finally attended Purdue University where he received a Bachelor of Science in Solid Earth Sciences (1989), a Masters in Science in Geophysics (1991), and then a PhD in Geological Sciences in 1995 received at Queen's University.

Before being selected as a Mission Specialist by NASA in July 2000, Dr. Feustel worked as an auto mechanic, a commercial and industrial glazier, and as a geophysicist.

Dr. Feustel served on the crew of the STS-125, the final Space Shuttle mission to complete the fifth and final repair of the 19-year-old Hubble Space Telescope. During the mission, the Hubble Telescope was refurbished with four new or rejuvenated scientific instruments, new batteries, new gyroscope, and a new computer. The spacewalkers overcame frozen bolts, stripped screws and stuck handrails. The STS-125 mission was accomplished in 12 days, 21 hours, 37 minutes and 09 seconds, traveling 5,276,000 miles in 197 Earth orbits.

He also served on the Space Shuttle Endeavor’s final mission for STS-134 to the International Space Station which was the penultimate mission of NASA’s Space Shuttle Program. He served as the lead space walker (EVI) and logged 21 hours and 20 minutes over 3 EVAs. The flight delivered the Alpha Magnetic Spectrometer and an ExPRESS Logistics Carrier to the International Space Station. The STS-134 mission included four spacewalks and was completed in 15 days, 17 hours, 38 minutes and 23 seconds, traveling 6,510,221 miles in 248 Earth orbits.

We are very pleased to have Andrew Feustel joining us today!
THE INCREDIBLE EGG DROP

Students are challenged to build a container that will prevent an egg from breaking or cracking when dropped from the top floor of the Harding Mott University Center. Participants will learn topics in kinematics and dynamics. All supplies will be provided.

JAMES ALSUP is an Assistant Professor in the Department of Computer Science, Engineering and Physics. His research is focused on theoretical physics and applications of block holes to strongly coupled systems.

ENGINEERING WATER SOLUTIONS

In a hands-on exploration, delve into some of the wonders of water including buoyancy and pressure marvels. Look into the concepts behind Galileo’s thermometer and other ways to apply this knowledge to everyday needs.

LAURA SUTTON is a Lecturer with the Computer Science, Engineering and Physics Department. She is an alumnus of UM-Ann Arbor’s Computer Engineering program, has a Master’s in Engineering Management and enjoys sharing her passion for engineering with others.

NEWSCASTERS FOR A DAY: HOW THEY MAKE THE EVENING NEWS

In this workshop we will create an evening news segment by using a green screen, teleprompter, and camera. We will use video editing software to immerse two volunteer newscasters into their top stories.

BRANDON BLUNKENBERG & CARSON WAITES

BRANDON BLUNKENBERG and CARSON WAITES are instructional designers and media creators at UM-Flint’s Office of Extended Learning.

3D MODELING WITH CREO PARAMETRIC

Hands on 3 dimensional modeling of a part being manufactured in the industry.

DR. DAVEK worked as a design engineer for John Deere. Every engineer should know how to read blueprints.

CHEMISTRY ILLUSIONS

Presenters will introduce various chemistry topics that explore materials that have multiple facets. Senior level undergraduates will prepare and present fun demos to walk through various chemistry topics focused on chemistry illusions.

MINDFULNESS THROUGH RELAXATION PRACTICE

Learn how to be more centered and focused through relaxation technique practice.

THERESA LANDS is the Director of Auxiliary & Recreational Services and an Adjunct Lecturer for Public Health & Health Science at UM-Flint. She has worked in the field of adult fitness and wellness programming for over 30 years and regularly presents on the topics of health promotion, physical fitness, and stress management. Ms. Lands has a Master of Arts degree in Exercise Science and a Specialist’s degree in Educational Leadership.

BE A SCIENTIST: MAKE YOUR OWN THERMOMETER

Temperature is something that we deal with every day and temperature measurement is one of the most important skills that scientists and engineers must have. In this workshop several temperature measuring tools will be demonstrated including infrared thermal cameras and various types of contact and non-contact thermometers. The theoretical basis of thermometers - the zeroth law of thermodynamics - will also be discussed. Join us to find out how thermometers work when you make your own.

MIHAI G. BURZO is an Assistant Professor of Mechanical Engineering at UM-Flint. His research interests include heat transfer in microelectronics and nanostructures as well as lie detection, thermal comfort and driver alertness detection using thermal imaging and biosensors. His passions are thermal sciences and soccer.

YOUR BODY: A SYSTEM OF SYSTEMS

Many systems and components work together in perfect unison to allow the human body to function properly. These systems, while complex and very different, all play an important role in human movement. This course, lead by ‘movement experts,’ physical therapy students at UM-Flint, will introduce some of the systems responsible for movement, such as the musculoskeletal, neurological, cardiovascular, and vestibular systems. This brief educational session will participate in a hands-on observation and UM-Flint’s resident astronaut. His work includes understanding the biggest block holes in the universe.

COMETS & CRATERS

What is a comet made of? Where do comets exist in the Universe? What happens when a comet hits planets like the Earth? What is the difference between a comet and asteroid? Come explore the inner workings of these icy and rocky bodies by actually making your very own comet and analyzing real asteroids! Then experiment by forming your own craters.

PROFESSOR RASHI GANGULY is an Assistant Professor and UM-Flint’s resident astronaut. His work includes understanding the biggest block holes in the universe.

COMBUSTION DIAGNOSTICS

Combustion systems. His current research interests are in multi-component fuel vaporization and spray combustion.

HEARTSAVER CPR

Basic adult/child CPR skills shared with return demonstration and testing available if interested in CPR card.

KIMBERLY VAN SLUYKE-SMITH is a graduate of UM-Flint’s 1998 BSN program and 2014 MSN program. Currently clinical faculty since 2006, RN at Hurley and NP with Genesee County Health Department. She has been a BLS/CPR instructor since 2005.

BLOOD, GUTS, & GORE: SPECIAL EFFECTS STAGE MAKEUP RESEARCH AND TECHNIQUES

In this workshop students will learn the basic techniques of special effects makeup application and how research is an integral part of the process of doing realistic special effects makeup.

SHELBY NEWPORT & ADAM DILL

SHELBY NEWPORT is an Assistant Professor at UM-Flint and is the Resident Costume Designer. She also designs costumes and makeup regionally at Purple Rose Theatre, Tipping Point Theatre and Flint Youth Theatre.

ADAM DILL is the Costume Shop supervisor and Lecturer at UM-Flint. He designs and drapes regionally at Flint Youth Theatre, PlayMakers Repertory Company, and Utah Shakespeare Festival.
TOTAL TO THE EXTRAORDINARY! EXPLAINING HOUGHTS THAT LOOK LIKE CAN BE SO DIFFERENT
Science exists all around us, including within common everyday objects. Through various science demonstrations, students will have the opportunity to participate in hands-on experiments as they hypothesize project outcomes. As students use experiments to test their theories, they become scientists themselves!

Dr. Sharron Sebentval Adams is an Associate Professor of Educational Technology within the Education Department. She is passionate about working with youth in the community to bring hands-on educational experiences into the lives of children both within the United States and through her environmental education work in Quintana Roo, Mexico.

TITANIC SCIENCE
“Titanic: Disaster at Sea” 103 years ago the RMS Titanic sank, taking over 1,500 people with her, and previously a practicing nurse in Novi, Nicole sees the potential of trauma deaths and injury casualties. The following question will be answered: How can trauma deaths and injury be prevented?


Cathy Aker-Jordan teaches a variety of writing classes at UM-Flint. She is one of the authors of Report into the Loss of the SS Titanic: A Centennial Reappraisal (published by The History Press, Nov. 2011). A portion of her work in that book was also published in Titanic: Her Journey (iPad App, The History Press, 2012). Her previous Titanic presentations include “Titanic Mysteries” (at Magnum Murder Oct. 26, 2012), “Report Into the Loss of SS Titanic: A Centennial Reappraisal” (at Ball State University April 16, 2012), “Titanic: Disaster at Sea” (Super Science Friday at UM-Flint May 15, 2009), and Locked Below? An analysis of Class Separation Gates on the RMS Titanic” (at the Maine Maritime Academy, April 23-25, 2004). She has also worked at the Titanic Artifact Exhibit at the Detroit Science Center (Feb.-Sept., 2003).

USING GEOSPATIAL TECHNOLOGY TO CREATE MAPS
Through the use of geospatial technology, Troy Rosencrants and Dr. Greg Rybarczyk will guide the students through the creation of maps using spatial data. First, they will demonstrate the use of Google Earth TourBuilder. The students will then learn how to view, edit, and create personalized map using other map-making software.

Troy Rosencrants & Dr. Greg Rybarczyk
Troy Rosencrants is the GIS Center Manager and is in charge of managing projects/activities within the Center. Dr. Greg Rybarczyk manages the GIS program at UM-Flint and has used GIS for the past 10 years in the private, public, and government sectors.

HIP KIDS ARE FIT KIDS
Meet with nurses to monitor your heart with an electrocardiogram, check your blood pressure, use a stethoscope to listen to your heart, and challenge your cardiovascular health jeopardy all to the beat of “Just Don’t Stop the Music.”

Sonia Moreau, RN, MSN is a nurse and full-time faculty at UM-Flint. Sonia currently teaches Nursing Issues and Trends, in the classroom, and also teaches students in the clinical setting. Sonia has more than 30 years experience as Registered Nurse caring for seriously ill adults. She will be assisted by UM-Flint Nursing students.

CAN YOU TRUST A ROBOT?
In this workshop, students will learn how to program a robot to do some simple tasks. Students will experiment with the robots by trying different types of control programs. A brief introduction to programming will be given through the use of the iRobot Create robotics platform. Students will form hypotheses on the robot behavior and test these hypotheses in a series of brief experiments.

Steve Turner, Chris Pearson
Steve Turner is an Associate Professor in Computer Science. Chris Pearson is a Professor of Physics.

LIGHTS, SCIENCE, ACTION!!! SCIENTIFIC EXPLANATIONS OF EXTRAORDINARY OCCURRENCES
Glowing wonders, beautiful reactions, and fiery explosions are great reasons to be excited about chemistry. However, many people often mistake our science as “magical.” During this program, the Chemistry Club will do a little “myth busting” by showing some of our most popular chemistry and physics demos and discussing with a crowd why what they are seeing is explained by science instead of magic.

Samantha Grathoff, Monique Wilhelm & Jessica Tischler
Sam Grathoff is a Laboratory Coordinator and Outreach Liaison and Lecturer for the Department of Chemistry and Biochemistry and serves as faculty demo coordinator for the Chem Club. Monique Wilhelm is a Laboratory Supervisor, a Lecturer in the Department of Chemistry and Biochemistry, and an advisor for the Chem Club. She enjoys photography, learning about safety, and showing others how chemistry exists in their everyday lives. Jessica Tischler is the Chair and an Associate Professor in the Department of Chemistry and Biochemistry. She is also the faculty advisor for the Chemistry Club. The UM-Flint Chem Club is a Student Affiliate’s chapter of the American Chemical Society (ACS), the largest scientific organization in the world. The Chem Club has received national recognition from the ACS the last twelve years in a row for its outstanding activities and contributions to the community.

TRACK THAT TURTLE
Students will hear a brief explanation on animal tracking and be shown how to use radio telemetry equipment and will be taken outside to trace an animal model. Students will then return to the classroom to map their animal’s location to understand how biologists study animals and their habitats for conservation and research.

Melissa Szymbanski is a graduate student in the Biology Department.

FIRST ROBOTICS DEMO
Students will run a robot.

Team Tesla #4998 from Genesee Early College will conduct a robotics demo.


University of Michigan-Flint

Areas of Study

**ARTS & SCIENCES**
- Actuarial Mathematics
- Africana Studies
- Anthropology
- Applied Science
- Art History and Criticism
- Art-Studio Art
- Biochemistry
- Biology
- Chemistry - General
- Chemistry
- Communication
- Computer Information Systems
- Computer Science
- Criminal Justice
- Dance
- Economics
- Energy & Sustainable Systems
- Engineering (General)
- English
- English, Specialization in Linguistics
- English, Specialization in Literature
- English, Specialization in Writing
- Environmental Science & Planning
- French
- French & International Studies
- French & Linguistics
- History
- Honors Program
- Human Biology
- Interdisciplinary Studies
- International and Global Studies Program
- Journalism
- Mathematics
- Mechanical Engineering
- Molecular Biology & Biotechnology
- Music
- Music Education
- Music Performance
- Philosophy
- Philosophy, Emphasis in Ethics, Social & Political
- Philosophy of Neuroethics Program
- Physics
- Political Science
- Psychology, Applied
- Psychology
- Psychology, Research
- Public Administration
- Social Sciences, joint programs
- Sociology
- Spanish
- Spanish & International Studies
- Spanish & Linguistics
- Theatre
- Theatre Design & Technology
- Theatre Performance
- Visual Arts Education
- Visual Communications
- Wildlife Biology

**PRE-PROFESSIONAL PROGRAMS**
- Pre-Dentistry
- Pre-Law
- Pre-Medicine
- Pre-Pharmacy
- Pre-Physical Therapy
- Pre-Veterinarian

**EDUCATION & HUMAN SERVICES**
- Early Childhood Education
- Elementary Education
- Literacy K-12
- Secondary Education
- Social Work
- Special Education
- Technology in Education
- Urban Multicultural Education

**MANAGEMENT**
- Accounting
- Finance
- General Business
- International Business
- Management
- Marketing
- Organizational Behavior & Human Resources Mgmt

**HEALTH PROFESSIONS & STUDIES**
- Anesthesia
- Clinical Laboratory Science/Medical Technology
- Health Care Administration
- Health Education
- Health Sciences
- Nursing
- Physical Therapy
- Public Health
- Radiation Therapy

**GRADUATE PROGRAMS**
- Accounting (MS)
- Anesthesia (DrAP)
- Anesthesia (MS)
- Arts Administration (MA)
- Biology (MS)
- Business Administration (MBA)
- Business Certificate
- Chemistry and Biochemistry (BS/MS)
- Computer Science and Information Systems (MS)
- Early Childhood Education (MA)
- Education (Ed.D.)
- Education with Certification (MAC)
- - Detroit Teacher Project
- Education Specialist (Ed.S.)
- Educational Administration (MPA)
- Educational Technology (MA)
- English Language and Literature (MA)
- Health Education (MS)
- Liberal Studies (MA)
- Literacy Education (MA)
- Mathematics (MA)
- Nursing (Accelerated MSN)
- Nursing (DNP)
- Physical Therapy Certificate
- Physical Therapy Residency
- Physical Therapy (Entry-Level DPT)
- Physical Therapy (Post-professional tDPT)
- Physical Therapy (Ph.D.)
- Public Administration (MPA)
- Public Health (MPH)
- Social Sciences (MA)

Super Science Friday is part of the UM-Flint K-12 Partnerships Program.

Other K-12 Partnerships include:
- DEEP (Dual Enrollment Educational Partnerships)
- Genesee Early College (GEC)
- Grand Blanc Early College (GBEC)

For more information, please see http://www.umflint.edu/k12

Dr. Robert Hahn
Coordinator of K-12 Partnerships

Dr. D. Jeff Pratt
Coordinator of K-12 Partnerships
8-8:45 Arrival and check in
Registration at UCEN
(#16 on the map)

9-9:45 Group #1 NASA Astronaut
Presentation with
Andrew Fuestel

9-10 Group #2 Workshop
Session 1

10-11 Group #1 Workshop
Session 1

10:15-11 Group #2 NASA Astronaut
Presentation with
Andrew Fuestel

11:15-12:15 Workshop Session 2

12:30-12:45 Pizza Lunch (Recreation
Center, #17 on the map)

12:45-1:30 Keynote Presentation
Doctor Slime
(https://doctorslimescience.wordpress.com/)
(Recreation Center, #17 on the map)

1:30-1:45 Dismissal/Load buses
from first floor UCEN
(#16 on the map)
THIS EVENT WAS MADE POSSIBLE IN PART BY:

NARTEL FAMILY FOUNDATION

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