

The Science Scoop

Coverage of:

- ✓ 2014 Joint Conference Announcements
 - ✓ November 8, 2014 @ Woodhaven High School, Brownstown
- ✓ Member Benefits
 - ✓ MDSTA grants
- ✓ Science Writing
 - ✓ Articles, news, notes, and opinions
- ✓ Miscellaneous

- ✓ **Wanted:** Articles
- ✓ **Wanted:** Seasonal Science Pictures
- ✓ **Wanted:** MDSTA Board Members at Large and Teacher Organizations Liaisons

The purpose of this organization shall be to promote the professional growth of teachers of science at all levels and to improve the quality of science education in the Metropolitan Detroit area. (MDSTA bylaws)



2014 Metropolitan Detroit Joint Science and Math CONFERENCE

Saturday, November 8

...will take place at Woodhaven High School, on 24787 Van Horn Road, in Brownstown, MI 48134.



The conference program is now available online.

For sessions, exhibitors and more please visit:

<http://www.mdsta.org/annual-fall-conference>

To register online for the conference please visit:

<http://dactm.memberclicks.net/events>

🔬 Exhibits in gym: 8:00-4:00

🔬 MESTA Rock Shop

🔬 Session meetings last one hour

🔬 Workshops last one hour and 20 minutes.

🔬 There is no charge for workshops but attendance may be limited.

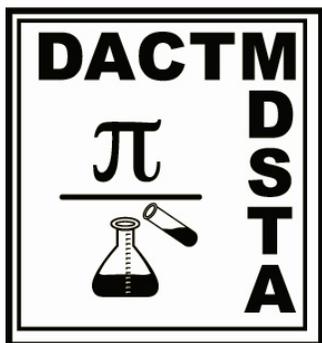
🔬 Yummy lunch: 11:00-1:00

🔬 SCECHs (SB-CEUs) Remember to register by 7:55 a.m., sign out after 3:30 p.m. and pay your fee. You must bring your PIC number. See program for full information.

🔬 There will be some tables of new/gently used teacher materials inexpensive/free in the gym and in hallways.

NEW TABLET RAFFLED

A new tablet (currently, the brand, generation, and color are undisclosed) will be raffled at the Conference at 3:45 p.m. in the vendor area (gym). Must be present to win!



Are you a **presenter**? If you have questions please contact conference presenter chairs **Richard Strausz** (arpees@aol.com) and **Valentina Tobos** (vtobos@ltu.edu)

Are you an **exhibitor**? If you have questions please contact **Pamela Callaway** exhibits@mdsta.org

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Conference Sponsors (as of October 20, 2014)

Gold Sponsor: STEM.org

Silver Sponsor: Pearson School Group

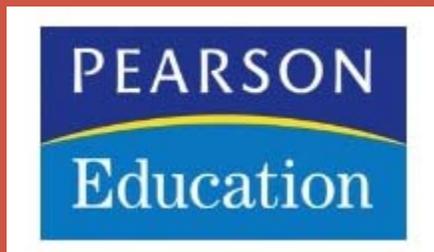
Diamond Sponsor: Lawrence Technological University

Diamond Sponsor: Michigan Envirothon

Emerald Sponsor: Nasco Science and Math

Emerald Sponsor: MEEMIC Randahl Agency

Many thanks also go to Texas Instruments for supplying graphing calculators for all the conferences' presentations for the last 10+ years and also for the grand prizes in our raffles and statistics strand.



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Membership Benefits

MDSTA



GRANTS

Apply for the MDSTA-Mini Grants:

There are up to six mini-grants awarded annually based on applications. Mini-grant requests can be written for up to **\$500**. To review eligibility and to apply, please visit:

<http://www.mdsta.org/mini-grants>

Nominate teachers for the MDSTA Outstanding Educator Award:

To apply for the Outstanding Educator Award, please visit:

<http://www.mdsta.org/awards>

Nominate an educator for the Ellen Daniel-Jones Distinguished Service Award:

The qualifications for the Ellen Daniel-Jones Distinguished Service Award are leadership, service, and exemplary teaching for over 15 years. To nominate a teacher for this award, please send an email to MDSTA Board Membership Registrar **Debby Peters** at:

awards@mdsta.org

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Academy Science Labs Activities

by *Connie Eisenhart*



Ms. Eisie's science classes have been studying density, cells and oceanography.

Eighth graders had to construct a miniature submarine. Their submarine should sink, touch the bottom, and then rise to the top. Students used the following materials to complete this mission: film canister, pennies, baking powder, baking soda, and effervescent antacid tablets. Students should show at least one working model.

Seventh graders observed for 5 days the selective passing of materials into and out of a membrane. They hypothesize that the acetic acid solution will dissolve the calcium carbonate in the eggs outer shell, converting it to bubbles of CO₂. The membrane will then allow much passage of vinegar through the membrane to attain equilibrium of solute concentration (because the vinegar will be a more concentrated solution than inside of the egg). The two solutes (acetic acid and glucose) will even out on each side of the membrane. There will be a net loss of egg mass, as solution in the egg will pass through the membrane to even the concentration of solutes in the water.

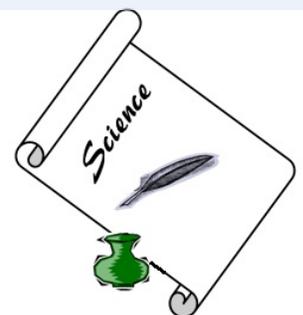
Sixth graders went through five boxes of Oceanographer material. Each box had organisms and shells that taught fascinating facts about many of the ocean's creatures. Each student was equipped with stereoscopes and a hand lens to complete this mission.

Connie Eisenhart is a science teacher at Guardian Angels Academy and the treasurer of the MDSTA Board of Directors. Contact Ms. Eisenhart at eisenhartc@gaschool.com

WANTED: Articles for Upcoming MDSTA Newsletters

The Metropolitan Detroit Science Teachers Association wants to publish your articles in an upcoming issue of the newsletter. We are interested in articles on various science and education topics that are appropriate for the Pre-K-12 classroom. Your favorite lessons, updates to sites for teachers or interactive lessons, conference participation and cool ideas for reading are just the beginning. Let us know of upcoming events and we will share with the community!

Send articles to
Valentina Tobos at
newsletter@mdsta.org



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Science Surfing

by Marilyn Rands

<http://www.nsta.org/publications/freebies.aspx>

NSTA website with a list of free resources for teachers. It is updated often.

<http://science.nasa.gov/educators/>

NASA educators' site which contains an online catalog of NASA Earth and space science resources for educators of all levels – from elementary to college, to out-of-school programs.

<http://eepurl.com/4nGVb>

Earth Sky News is a daily update of science news, great photos, sky alerts. You can visit the site to see daily reports, view items in the archive, or subscribe to have the daily report delivered to your email.

<http://www.improbable.com/ig/winners/#ig2014>

The IgNobles are awards by the Improbable Research magazine. They honor achievements that first make people laugh, and then make them think. This year's physics award went to a study on banana peel friction. Other gems include the mental dangers of owning a cat (Public Health), and the evidence that people who habitually stay up late are, on average, more self-admiring, more manipulative, and more psychopathic than people who habitually arise early in the morning (Psychology).

<http://www.arborsci.com/cool/kinetic-energy-into-thermal-energy>

A video from Arbor Scientific about Kinetic Energy into Thermal Energy using the spheres along with a couple other experiments. Products from Arbor Scientific are used in the video, but some of the demos could be done with equipment you might have in your classroom or laboratory.

<http://www.nuclearconnect.org/in-the-classroom/for-students/nuclear-art-multimedia-contest>

American Nuclear Society Nuclear Art & Multimedia Contest. Students create a poster, video, or meme and win prizes for their school. Deadline October 27, 2014.

Also in the “Reading” List

[25 great tips to help teachers keep their classrooms in control](#)

From the NSTA Store: <http://www.nsta.org/store/>

News and information about the Sun-Earth environment: <http://spaceweather.com/>

Marilyn Rands is an emeritus professor of physics at Lawrence Technological University. Contact: mrands@ltu.edu



Read a bounty of science news and watch video clips at:

<http://science.nasa.gov/>

Linking Climate Change Education through the Integration of a Kite-borne Remote Sensing System: Linking Climate Change Education and Remote Sensing

Yichun Xie¹, Andy Henry², David Bydlowski², Joseph Musial^{2,3}

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²Wayne County Regional Education Service Agency

³The University of Michigan-Dearborn, Behavioral Sciences

yxie@emich.edu , henrya@resa.net , BydlowD@resa.net , MusialJ@resa.net

A majority of secondary science teachers are found to include the topic of climate change in their courses. However, teachers informally and sporadically discuss climate change and students rarely understand the underlying scientific concepts. The project team developed an innovative pedagogical approach, in which teachers and students learn climate change concepts by analyzing National Aeronautics and Space Administration (NASA) global data collected through satellites and by imitating the NASA data collection process through NASA Airborne Earth Research Observation Kites And Tethered Systems (AEROKATS), a kite-borne remote sensing system. Besides AEROKATS, other major components of this system include a web-collection of NASA and remote sensing data and related educational resources, project-based learning for teacher professional development, teacher and student field trips, iOS devices, smart field data collector apps, portable weather stations, probeware, and a virtual teacher collaboratory supported with a GIS-enabled mapping portal. Three sets of research instruments, the NASA Long-Term Experience –Educator End of Event Survey, the Teacher End of Project Survey, and the pre-and-post-Investigating Climate Change and Remote Sensing (ICCARS) project student exams, are adapted to study the pedagogical impacts of the NASA AEROKATS remote sensing system. These findings confirm that climate change education is more effective when both teachers and students actively participate in authentic scientific inquiry by collecting and analyzing remote sensing data, developing hypotheses, designing experiments, sharing findings, and discussing results.

Journal of Technology and Science Education. Vol 4(3), 2014, pp 86

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Included with permission from [David Bydlowski](#) Michigan Coordinator—Science Matters Network and MDSTA webmaster and Wayne RESA liaison. Contact: bydlowd@resa.net

Summer Travels: The Brewster Flats

by Ellen and Wolfgang Schmidt

This summer we had the visit of a dear friend and professor of physics, in our house in Brewster, Cape Cod, Massachusetts. She introduced us to a phenomenon that we took for granted all the years we lived here, without giving it a thought.

After her first cup of coffee, she left for a walk on our beach. When she returned she shared her enthusiasm about the vastness and the beauty of the flats that stretch for miles during low tide (top picture). Brewster is located on the bay side of Cape Cod, land that stretches from Provincetown in the north to Barnstable in the south. The water level is affected by tides, and rises and falls nine feet with every tide change approximately every twelve hours. At low tide the sandy flats are exposed and form a wonderful ground for walking, playing, digging, sunbathing, painting and photography. The exposed surface of the sand is ideal for collecting various types of shells, mussels, sand dollars, horse crabs, hermit crabs, etc. This vast “playground” that stretches over about eighteen square miles is ideal for families, children of all ages, individuals and explorers. It is the largest flat of its kind in North and Central America, and you can walk for miles once you leave shore. When the tide comes back in it will wash all footsteps and traces of any human intervention away and present a new and pristine surface of flats when the water goes out again.

Caution and knowledge of the tide schedule must be exercised when walking out in low tide because the tide is usually coming faster than expected. The phenomenon of the flats has existed for centuries and winter storms and hurricanes had a bigger impact on the shoreline than on the appearance of the flats.

After looking into the background of the Brewster flats we have a much deeper appreciation of this beautiful part of nature in Cape Cod.

Ellen is born and raised in Cape Cod. She enjoys the different looks of the ocean on the bay side and the ocean side. Wolfgang, born in Germany, upon visiting the area in the early sixties, fell in love with the movement of the ocean and the peace nature brings. He has come back to Cape Cod ever since.

Pictures: Ellen and Wolfgang Schmidt



Science Matters



NGSS Implementation Resource

The University of Washington just launched a new web site called STEM Teaching Tools with professional learning tools to support implementation of NGSS. This effort has been developed through an NSF-funded effort called the Research+Practice Collaboratory.

The new web site is:

<http://STEMteachingtools.org>

The twitter account is:

<http://twitter.com/STEMTeachTools>

Females Excelling More in Math, Engineering and the Sciences

Engaging, hands-on activities in all FEMMES programs:

www.femmes.studentorgs.umich.edu allow girls to learn in a fun, supportive environment and explore their potential in the STEM fields. FEMMES' hopes to build their participants' curiosity about a variety of areas related to science, math, and engineering and encourage them to increase their participation in those fields.

FEMMES hosts two types of activities for girls in 4th through 6th grade. Saturday Science Capstone events are free programs held twice annually on the University of Michigan's (U of M) campus. These events are typically held from 8:45am to 3:30pm. Each event includes about 200 girls from all over Southeast Michigan. The day starts with a keynote speaker who talks about her path into STEM and why she loves her work. Girls then get to participate in hands-on activities in the morning lead by professors from U of M. Lunch is provided for free, and followed by more hands-on activities in the afternoon. They hope their activities increase girls' excitement for STEM and confidence in their abilities. After-School Events are held at local schools and lead by graduate and undergraduate students from STEM fields at U of M. They typically run for two hours and are similar to their Saturday Science Events in that they engage the girls in hands-on STEM activities. They love getting the chance to interact with girls further by visiting their schools.

Registration for their Saturday, November 8th event is now open! The registration form is available at:

<https://docs.google.com/file/d/0B6PbOR84aGrbVlg2Uk1Hd3dVbIE/edit?pli=1>

Included with permission from David Bydlowski Michigan Coordinator—Science Matters Network and MDSTA webmaster and Wayne RESA liaison. Contact: bydlowd@resa.net

SCIENCE MATTERS



Network in Michigan

Science Matters is an initiative from the National Science Teachers Association that promotes quality science education, resources, and professional development opportunities. Each state has a Science Matters Coordinator whose primary role is to be the point of contact for distribution of science resources and opportunities to the state network. Your state coordinator is David Bydlowski. You can contact him at: bydlowd@resa.net

To subscribe to the Science Matters Network in Michigan e-blast, please visit:

<http://nsta.org/sciencematters>

Click on Teachers, and then click on Become a Point of Contact.

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NSTA Virtual Conference on NGSS Practices

When teachers are asked what they like most about virtual learning experiences, *convenience* is at the top of the list. According to one teacher, "it was beneficial to learn about these topics from the comfort of my home and not worry about travel expenses and time spent traveling."



Join NSTA for an intensive one-day virtual conference on **Saturday, November 15**, to learn about engineering and scientific practices. This web-based professional learning opportunity includes interactive sessions on modeling, explanation and argumentation, and engineering, plus breakouts by grade level and discipline.

Engage with leading experts, discuss ideas with colleagues, and gain practical insights and strategies to better understand and apply key principles from the *NGSS*—all from the convenience of your home.

Read the agenda and register today for this one-of-a-kind opportunity at the web address below:

<http://www.nsta.org/vc>

\$79 for NSTA members and \$99 for nonmembers. No traveling means you can save \$ and concentrate 100% on the information.

Climate Change Online News Source



[The Daily Climate](#), a nonprofit online news source, has launched a new interactive, online community to significantly expand its coverage of climate change impacts that are occurring right now in your own backyard.

The “**Climate at Your Doorstep**” project connects you directly with leading climate change experts through social media to share information on this complex topic. A panel of distinguished scientists and experts specializing in climate change are monitoring the hashtag **#ClimateDoorstep** and other Daily Climate social media channels. They will directly respond to your questions, photos, and videos about environmental changes you may be experiencing in your own community.

Experts include:

Michael Mann, Penn State University

Katharine Hayhoe, Texas Tech University

Gail Whiteman, Erasmus University

Sarah Souther, West Virginia Wesleyan College

Tom Lovejoy, George Mason University and the United Nations Foundation

Michael Oppenheimer, Princeton University

Marshall Shepherd, University of Georgia

Come join the conversation and help us spread the word!

Facebook: www.facebook.com/DailyClimate; Website: www.DailyClimate.org/Doorstep

Twitter: @TheDailyClimate; Hashtag: #ClimateDoorstep

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Building Engineers for the Future

by MI STEM Partnership

The St. Clair Hub of the Michigan STEM Partnership will be hosting its first event of the 2014-15 school year, "Building Engineers for the Future" on November 13 at Washtenaw ISD. Presentations will highlight the need for K12 engineering education in Southeast Michigan through the lens of the Framework for K12 Science Education (the foundational research from which the latest science standards have

been written) and showcase a pipeline approach featuring teachers and students from elementary, middle, and high school programs. Additionally, several engineering programs that could be used to fill this need will be featured, with additional time to interact with the presenters and other participants. Through the generous support of our government, industry, and education partners, registration for this event (including lunch) is free!

Please register at the following link: <http://goo.gl/RIe9IH>

THE ST. CLAIR STEM HUB OF THE MICHIGAN STEM PARTNERSHIP PRESENTS:

Building Engineers for the Future



Summer 2015 Forensic Science Workshop

by Lawrence Tech University and Kathy Mirakovits

Interested in developing a forensic science course in your school? Want to learn how to set up a "crime scene"? Need more information about forensic techniques? **CSI:Lawrence Tech**, designed for **educators**, can help you develop your coursework, engage your students, and teach forensic science using an **integrated science** approach. You will work alongside police officers and experts trained in forensic science.

This hands-on workshop focuses on:

- Accident reconstruction • Blood spatter analysis • Glass analysis • Ballistics • Fingerprints and impressions • DNA fingerprinting • Forensic entomology • Crime scene processing • Legal issues

CSI:Lawrence Tech is organized by Lawrence Technological University in collaboration with Kathy Mirakovits.

SCECH

Participants who successfully complete **CSI:Lawrence Tech** can earn State Continuing Education Clock Hours (SCECHs, formerly SB-CEUs) or up to three graduate credit hours. If you decide to take this workshop for graduate credit, graduate tuition fees will apply.

July 6 – 10, 2015
8:30 – 3:30

For more information contact: call 248.204.3516 or email msedir@ltu.edu



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Presidential Award in Excellence in Mathematics and Science Teaching

Nominations are OPEN. The award honors outstanding math and science teachers from across our country. Nominations for 2014–15 PAEMST are now open! Nominate an outstanding 7-12 math or science teacher by 4/1/2015

For more information: <http://bit.ly/1DDRFWB>

Michigan's 2015 Teacher of the Year

Nominations are now OPEN.

For more information: http://www.michigan.gov/mde/0,1607,7-140-6530_13651_38018---,00.html

Educational Advancement Award

The American Institute of Professional Geologists (Michigan Section) is offering an Educational Advancement Award for private or public Michigan classroom teachers (worth a maximum of \$500). Applications are due by November 15, 2014.

For more information: <http://www.mestarocks.org/cms/content/welcome>

Ideas for GRANT Seekers

Are you starting to teach a new class or maybe you would like to include some new experiments in your next year's teaching? Then you are probably looking for grant opportunities. A few ideas tried and successfully used by teachers are to collaborate with your school librarian and look for foundations that support the grade levels you are teaching. Here are a few of these organizations that sponsor K-12 teachers:

www.donorschoose.org

www.Kickstarter.com

<http://www.pasco.com/STEMawards/>

<http://www.vernier.com/grants/>

www.dow.com/education

<http://msta-mich.org/smn>

Michigan Council of Women in Technology is happy to provide \$500 for up to six all-girl Robofest teams for the spring 2015 Robofest Game and Exhibition competition. Info and application on the web at:

http://www.mcwt.org/Robotics_Grants_187.html

Applications for the 2015 **Mickelson ExxonMobil Teachers Academy Open** through October 31! By visiting <http://www.sendmyteacher.com>, third-, fourth- and fifth-grade teachers can apply to attend a week-long, all-expense-paid professional development program that equips them with new ways to inspire their students in math and science. Please share this with teachers in your school today.

Do you have a (science) picture you would like to share? The best entry picture will be featured in the next newsletter. By submitting the picture you give MDSTA permission to publicize the photo in the MDSTA newsletter. Please add a caption including location, general information on topic, etc.

Send to Valentina Tobos at newsletter@mdsta.org
We appreciate your input!

Seasonal Science

Με αβριεσινε λοπλ ιυρηι
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LINKS

Science Association

MDSTA Home page: <http://www.mdsta.org/>

MDSTA Become a Member: <http://www.mdsta.org/join-mdsta>

MDSTA Awards and Grants Applications: <http://www.mdsta.org/member-benefits>

MSTA (State organization): www.msta-mich.org

DACTM (Mathematics): www.dactm.org

AAPT Committees lists: <http://www.aapt.org/Resources/lists.cfm>

MI – AAPT (physics): <http://web.miaapt.org>

NABT (biology): <http://www.nabt.org>

AACT (chemistry): <http://www.acs.org/content/acs/en/education.html>

Important Dates

November-December, 2014: Wayne RESA will be hosting or partnering in the following Professional Development opportunities offered during November and December. The PD is either at Wayne RESA, the Detroit Zoo, or online. Full information is available on the Science Calendar, found at:

<http://www.resa.net/science>

November 1, 2014: Deadline for MS and HS Students to apply for the Coleopterists Youth Incentive Award. Please visit:

http://www.coleopsoc.org/default.asp?Action=Show_SocietyInfo&ID=Youth

November 8, 2014: MDSTA/DACTM Fall Conference at Woodhaven HS in Woodhaven, MI. Please visit: <http://mdsta.org>

NABT 2014 Professional Development Conference, November 12-15, 2014, Cleveland

Convention Center, Cleveland, OH
<http://www.nabt.org/websites/institution/index.php?p=12>

November 18, 2014: Deadline to apply for the Student Spaceflight Experiments Program. Please contact Jeff Glodstein at: jeffgoldstein@ncesse.org

November 20, 2014: Deadline to apply for the Albert Einstein Distinguished Educator Fellowship. Please visit:

<http://www.trianglecoalition.org/einstein-fellows>

November 30, 2014: Deadline for MS and HS Teachers to apply for the PASCO STEM Educator Awards. Please visit:

<http://www.nsta.org/docs/awards/STEMEducator.pdf>

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December 17, 2014: Deadline for teachers in grades 6-9 to register for the eCYBERMISSION Competition. Please visit:

<http://www.ecybermission.com>

January 30, 2015: Deadline to apply for the Toshiba/NSTA ExploraVision Program. Please visit:

<http://www.exploravision.org/>



January 31, 2015: Deadline to register for the Youth Rover Challenge. Please visit:

<http://youthrover.com/registration-form/>

Important Dates is an excerpt from the Michigan Science Matters Network and other sources. For a full list contact [David Bydlowski](mailto:David.Bydlowski@mdsta.org) Michigan Coordinator—Science Matters Network, MDSTA Web administrator and Wayne RESA liaison at bydlowd@resa.net

Upcoming Meetings and Conferences

ACS

2015 Spring Meeting in Denver, CO, March 22-26.

Please visit: <http://www.acs.org>

AAPT

AAPT 2015 Winter Meeting in San Diego, CA. Jan 3-6.

Please visit:

<http://www.aapt.org/Conferences/sm2014/>

NABT

NABT 2014 Professional Development Conference, November 12-15, 2014, Cleveland Convention Center, Cleveland, OH.

Please visit:

<http://www.nabt.org/websites/institution/index.php?p=12>

MSTA

February 26 – 28, 2015: MSTA 62 Annual Conference in Grand Rapids, MI.

Please visit: <http://msta-mich.org>

NSTA

The National Science Teacher Association conferences coming up:

2015 Chicago National Conference (March 26–29).

For more information: <http://www.nsta.org/conferences/>

2014 MDSTA Board of Directors

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Valentina Tobos-
Newsletter

Kelvin Wise

David Bydlowski-
*Web Administrator and
Wayne RESA Liaison*

Remaining 2014-2015 schedule meeting of the board

(New board members will be voted in during 2014 Joint Conference – ballots available at the conference)
Most meetings are held on the campus of Lawrence Technological University, Southfield

November 8, 2014 Joint Conference at Woodhaven High School

December 9, 2014, place TBD

January 13, 2015

February 10, 2015

March 10, 2015

April 14, 2015

May 12, 2015, Annual Meeting

June, 2015, Retreat Planning Session, TBD

Come Join the MDSTA Board of Directors Team!

Are you interested in joining a team of dynamic professionals from the metropolitan area? Become more involved by considering being on the board of directors of the MDSTA. We are looking for all levels of teacher education, from pre-school to higher education, and both teachers and administrators. All professionals from the tri-county public, charter, or private schools may participate. Home school educators are welcome.

Submit your name and contact information to:

Pamela Callaway, executive director
exhibits@mdsta.org

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Liaisons NEEDED: we are looking for individuals that can play a liaison role between MDSTA and other local and regional teacher organizations such as: **ACS, DACTM, MABT, MACUL, Michigan Science Center, MSELA, MSTA, MESTA, and AAPT.** Contact exhibits@mdsta.org if interested.

Newsletter

Consider sending articles, teaching materials, photos, student work and other science and general education information to be included in the **MDSTA newsletter**. The letter is e-published during the months of February, June and October. Any news should be sent to Valentina Tobos, MDSTA board member, newsletter editor. An archive of recent newsletter can be found on our main web page at: www.mdsta.org, under the right tab named *Member Benefits*. Please send all materials to newsletter@mdsta.org

**Metropolitan Detroit Science Teachers Association
P.O. Box 2279, Detroit, MI 48202**

Email us at: newsletter@mdsta.org