



Fall 2017

# MCCB NEWS

## Letter from the President

Hopefully, you are all having a relaxing and rewarding summer break. I just finished a 10-week Spring course myself and headed with my family to Virginia to visit my Dad and the beach (in that order). As the incoming MCCB President, I wanted to tell you about three of the initiatives that the Executive Board is working on right now.

First of all, we have completed a new logo design that was voted on by the membership. This was done for many reasons, but mainly because the original design was made in WordPerfect years ago and was at such a low resolution that it was completely unusable for anything other than as a small icon on our webpage. In order to print t-shirts or posters, we needed a much higher resolution file, so the Board selected a designer with 3 prototype designs, and a modernized version of our current logo was selected. The new design was then formatted digitally so it could easily be used for our digital and printed newsletter editions, merchandise, web applications, and any other uses that we may find in the decades to come.

That leads me to our second initiative, creating an online shop where members can easily purchase MCCB gear anytime they like. The Board selected [www.CafePress.com](http://www.CafePress.com) as our e-commerce site, and thanks to the tireless efforts of Tim Periard, you can now go online and purchase mugs, t-shirts, shot glasses, and other gear adorned with the new logo. Each purchase sends a small amount of money back to MCCB, so it also helps us with our operations (which makes life easier for our Treasurer, Darrell Davies)! Just go to CafePress and search for MCCB to see what they have for you.



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## Letter from the President Continued



Finally, I would like to see a concerted effort this year to bring colleges back into the fold when it comes to hosting upcoming conferences and also when bringing in new members. The Board has voted to open up the Spring conference so colleges will host it just like the Fall Conference, but will have the option of either using the RAM Center for the hosting site (as we routinely do now in the Spring), or hosting at their college (as we do in the Fall). Susan Dentel has graciously agreed to continue booking the RAM Center each year, but now 2 years in advance, and the college that hosts in the Spring will then decide whether to keep the booking or to release the center and host at their site. It is our hope that this will make it easier for smaller Departments



to rotate through as hosts since the RAM Center will take care of the food and housing, leaving the host college to just to line up the speakers! This will make life a lot easier for Susan (since she has been left to do this on her own many times) and also

reengage our member colleges in the conferences. As a last thought, I would ask each member to consider attending the upcoming conference September 29-30 at Muskegon Community College (organized by Shawn Macauley). It looks to have an exciting bunch of speakers and a lot of fun events, so I look forward to seeing both old friends and new members there. I would challenge each of the old-timers in the organization (you know who you are!) to not only attend (so you can sample some home-brews like usual), but also to invite 1-2 new or lapsed attendees from your college. Volunteer to carpool with them or to share the housing so cost becomes less of an issue. Remind your adjuncts that we have raised money through the 5k runs that Kris Nitz organized at the RAM Center, and thus they would be eligible for the drawing that we do to subsidize 2 lucky attendees! Let us make it a point to act as ambassadors for the organization and to constantly bring in new folks to keep MCCB vibrant and relevant in the years to come!

Your colleague,

Mark Robertson  
Professor of Biology, Delta College  
MCCB President (2017-2018)

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*"I would like to see a concerted effort this year to bring colleges back into the fold when it comes to hosting upcoming conferences..."*

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## Upcoming Conference Notice

The 2018 Association for Biological Laboratory Education (ABLE) conference, will be held June 19-22 at Ohio State University. Its nearness to Michigan means we could possibly put a group together and drive down. This hands on conference lets you experience the lab from both the student and teacher perspective. The people are great (kind of like this group). For more information visit, <http://www.ableweb.org/> or contact Heather Wesp

## Website Info

**Please visit our website at:** <http://www.mccb1.org/>  
You will find information concerning conferences, job positions, general information about our organization as well useful web resources on our website. If any MCCB member knows about biology positions, upcoming relevant conferences, seminars, or workshops being held in Michigan (as well as throughout the U.S.) please email information to: Isis Arnoe ([mccbmembership@gmail.com](mailto:mccbmembership@gmail.com)) and/or Susan Dentel ([sdentel@wccnet.edu](mailto:sdentel@wccnet.edu)).





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*Photo by Matt Williams*

## Kirtland's Warbler

Our group went on a Kirtland's Warbler Tour very early Sunday morning. Our tour guide from Hartwick Pines directed us to an area of young Jack Pines along with a whole host of avid bird watchers and photographers to learn about the birds and witness them in their habitat.

Their population declined to near extinction in the 1970's as a result of fire suppression of jack pine stands and invasion of the cowbird (laying eggs in Warbler nests). Today their numbers have increased due to forest management with prescribed burns and/or clear cutting, reduction of cowbird invasion and protection of lands that serve as Kirtland Warbler breeding lands.

## Friday Evening at the Kirtland Warbler Opener

From far left: Tom Dale, Lynnda S., Leigh K, Bob L,  
Jerry H, Vivian A, Susan D, Kris Nitz, Mark R.



## Kirtland's Warbler Festival

On Friday evening (June 2nd) of the conference, we headed to Forest Dunes Country Club to participate in a fundraising event being held during the Kirtland's Warbler Festival. There were different wines and beers to sample and wonderful food choices. The local Roscommon High School jazz band provided music while people talked and enjoyed the festivities. There were people from the Kirtland's Warbler Alliance, Audubon Society, DNR and many other members of the community and conservationists present at the event. Dave Dempsey was the keynote speaker and provided a very informative narrative of the history of conservation in Michigan with the primary focus on the Kirtland's Warbler. Scott Hicks from the Kirtland's Warbler Initiative spoke specifically about the ecological niche and current status of the Kirtland's Warbler.

## Fall 2017 Conference

The fall MCCB Conference will be held at Muskegon Community College on September 29-30th.

Please consider recruiting new members to attend, particularly adjunct instructors and new employees who may not be aware of all that MCCB has to offer.

There will be a drawing at the fall conference to subsidize attendance for 2 lucky adjuncts for the next conference in the spring. The money for this was raised through the 5K walk held at the spring conference.

Please check the MCCB website for registration forms and an agenda.

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

## 2017 Emeritus Award

Jerry Host was surprised by Susan Dentel and Leigh Kleinert who presented him with a special Emeritus Award recognizing his long years of service as a member of Michigan Community College Biologists. In part it expressed MCCB's appreciation for his over 20 years of outstanding and dedicated service. He has been a presenter on edible plants, helps with conference registration and enjoys participating in the MCCB events at the conferences. He expressed



*Jerry Host accepting 2017 Emeritus Award*

his heartfelt appreciation and thanked all his friends in the organization.

## 4th MCCB Photo Contest Results

The 4th MCCB Photo Contest and Silent Auction was held during the spring conference. There were a good variety of scenery and close up images that ranged from Robin nestlings to sunflowers to waterfalls. The photo contest was won by an unprecedented four way tie for first place! Bob Leunk won with a Trillium Forest, while Susan Starr's photo from Crater Lake National Park was also a top vote getter. Lynnda Skidmore had a photo of an Egyptian Fruit Bat and another photo of a Swallowtail caterpillar rounding out the winners. The silent auction winning bids were mostly between \$5 and \$15 for some great photos, many of them framed.

### Photo Contest Winners

Lynnda S, Bob L. and Susan S. (absent)





## Second Annual 5K Walk a Success



Money raised from the 5K run/walk will be used to subsidize two adjuncts to attend an upcoming MCCB conference. A drawing will be held at the Fall MCCB conference in Muskegon to determine the lucky winners. You must attend to win.

## Socializing at the Spring Conference

One of the advantages of attending MCCB conferences is that you get a chance to socialize and get to know fellow biologists from all around the state. We need your help to recruit new members to come and join the fun. Let them know this is a great way to collaborate, share ideas and make new contacts that could help them introduce new material into their classes and/or help them in their professional career.

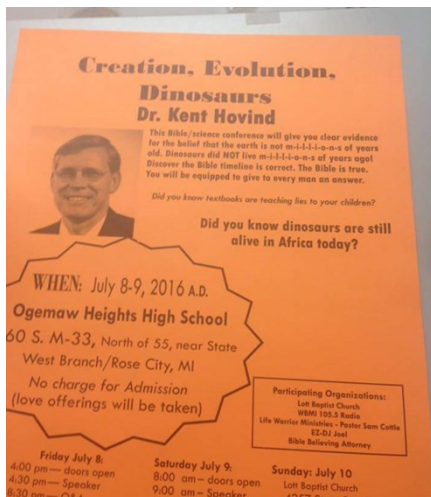


## Evolution and Intelligent Design Presentation by Susan Stewart (Summary submitted by Mark Robertson)

Susan Stewart gave a presentation on recent attempts by creationists in Michigan to degrade science education using various approaches. These current events stem from controversy as far back as 200 years ago, when mounting evidence of an old earth led increasing numbers of geologists to re-evaluate the then accepted view that the earth was only ~6,000 years old, which was based on a literal reading of the book of Genesis and other scripture. An old earth was well accepted among geologists before the publication of Darwin's Origin of Species in 1859, but Darwin's book sparked controversy among both biologists and the general populace.



The 1925 Scopes trial showed that while evolution was well accepted among biologists, it was not yet accepted by many in the general population. The confirmation of evolution by natural selection by many lines of evidence in the past 100 years has established it among scientists, but denial still exists among the general population, and especially in creationist organizations which try to sneak evolution denial into biology classes. A few recent examples were discussed, and some of the material promoted by creationist organizations used as examples.



The "Discovery Institute" is one of these, and its video "ATP Syn-  
thase" starts out well, with sophisticated graphics and correct biology – but soon is seen to argue for science denial and promote creationism. Similarly, attractions in various states (including Kentucky and Michigan) teach creationism, either openly or by first appearing scientifically sound and hiding their creationist aspects. However, open attempts also exist, such as rallies by creationist (and convicted felon) Kent Hovind at Michigan High Schools. All of these show the efforts by creationists to better circumvent scientific standards of accuracy and ignore previous legal defeats. At

the same time, poll data shows that the proportion of evolution deniers is steadily shrinking, and has, for the first time ever, sank below the level of support for theistic evolution according to the most recent Gallup poll. Resources are available for addressing creationism, which can be found at the MCCB website. Biology instructors are encouraged to be watchful for possible creationist efforts in their schools.

# Sleep Dependent Memory Formation: Brain rhythms make new information stick

Presentation by Sara Aton,

Dept. of Molecular, Cellular, & Developmental Bio., Univ. of Michigan, [saton@umich.edu](mailto:saton@umich.edu)

(Summary submitted by Jon Cleland-Host)

Why do we sleep? Sleep helps patients remember information, but WHY does that occur? We know that neurons use a burst pattern when we are falling asleep (slow wave sleep) and then transition 40-60 minutes later into REM sleep (where they have atonia and a higher threshold for arousal from sleep). It appears that both types of sleep are needed, and may be needed for different reasons or for different parts of the brain. Brain temperature, protein translation, brain neurotransmitter levels, and loads of other variables are all altered while we sleep. Using mice as a model, their lab studies both contextual fear memory and orientation-specific response potentiation models. In the first case, they place mice in a new cage and let them explore for a while, give them a 2sec. foot shock, and then see if they remember the experience (as exhibited by freezing) when returned to the cage later. They get the largest response if they are either returned within 2 hours or if they have sleep intervals in between. Could they be replaying the experience in their sleep state, or developing rhythmic firing patterns, or even pruning back synaptic pathways while sleeping? If mice go through one 24-hour cycle after being conditioned, there are more rhythmic firing patterns measured in their hippocampal interneurons, which may be helping the animals develop memories of the negative event.



Next, they converted a normal ACh receptor into a customized one that they could then control with a customized drug, and now selectively shut down neuronal firing rates chemically at will. The mice then lost the ability to “remember” the shocks effectively (even after sleeping). They then checked their data using a vehicle (instead of an inhibitor), and verified that the rhythmicity of the interneurons were again needed to develop a memory. Their data suggests that the information storage is really being developed during the slow wave, burst pattern sleep stage (rather than during the REM stage).

Using implanted archaebacterial opsins, they treated mouse brains so they could turn a neuron on or off using light delivered by fiber optics. They then tested mice in the same manner (using freezing behaviors after shocking) and found that targeting the interneurons during REM sleep created less problems with memory than did targeting during slow wave sleep.

In their next series of experiments, they tried implanting a new rhythmic pattern into mouse brains using fiber optic bursts to see if they could “create” artificial memories. They also introduced sleep deprivation to see if the rhythmic bursts could counteract the sleep deprivation. Once again, they found that the non-REM sleep rhythmicity was the most important factor in memory retention.

In the Q&A that followed, we discovered that only routinely napping has been shown to help with memory retention (and the data is variable on even that statement) and that maybe it is really total sleep time and how we are using it. It also appears to be extremely task-dependent (and thus may involve different processes in different parts of the brain).



### MCCB Officers

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Mark Robertson  
(President)

Leigh Kleinert  
(Past President)

Lynnda Skidmore  
(President Elect)

Susan Dentel  
(Secretary)

Darrell Davies (Treasurer)

Isis Arsnoe  
(Membership Chair)

Tim Periard  
(Nominations Chair)

Erica Staton  
(Newsletter Editor)

## Mission of MCCB:

MCCB (Michigan Community College Biologists) serves as a state-wide forum for sharing instructional techniques and new ideas for teaching college-level biology. The organization fosters communication, friendship, and unity among the biologists of the twenty-nine community colleges in the State of Michigan. Two state-wide meetings are held annually.

Founded in the early 1980's, MCCB began as an offshoot of COSIP (the College Science Improvement Program). Two COSIP groups were originally created in Michigan: a southern group of colleges (associated with the University of Michigan/Dearborn and directed by Dr. Hertzler) and a northern group of colleges (associated with Central Michigan University and directed by Dr. Carl Scheel). The initial meeting to form a statewide organization of community colleges occurred at Delta College in 1981. The first slate of officers was elected at that time, with Eldon Enger as President and Janet Dettloff as Vice-President.

- To promote interest in biology.
- To improve the teaching of biology by providing opportunities to share and discuss instructional techniques and teaching methods.
- To provide opportunities for updates on current topics and trends in biology.
- To facilitate the exchange of ideas and foster communication, friendship and unity among the community college biologists in Michigan