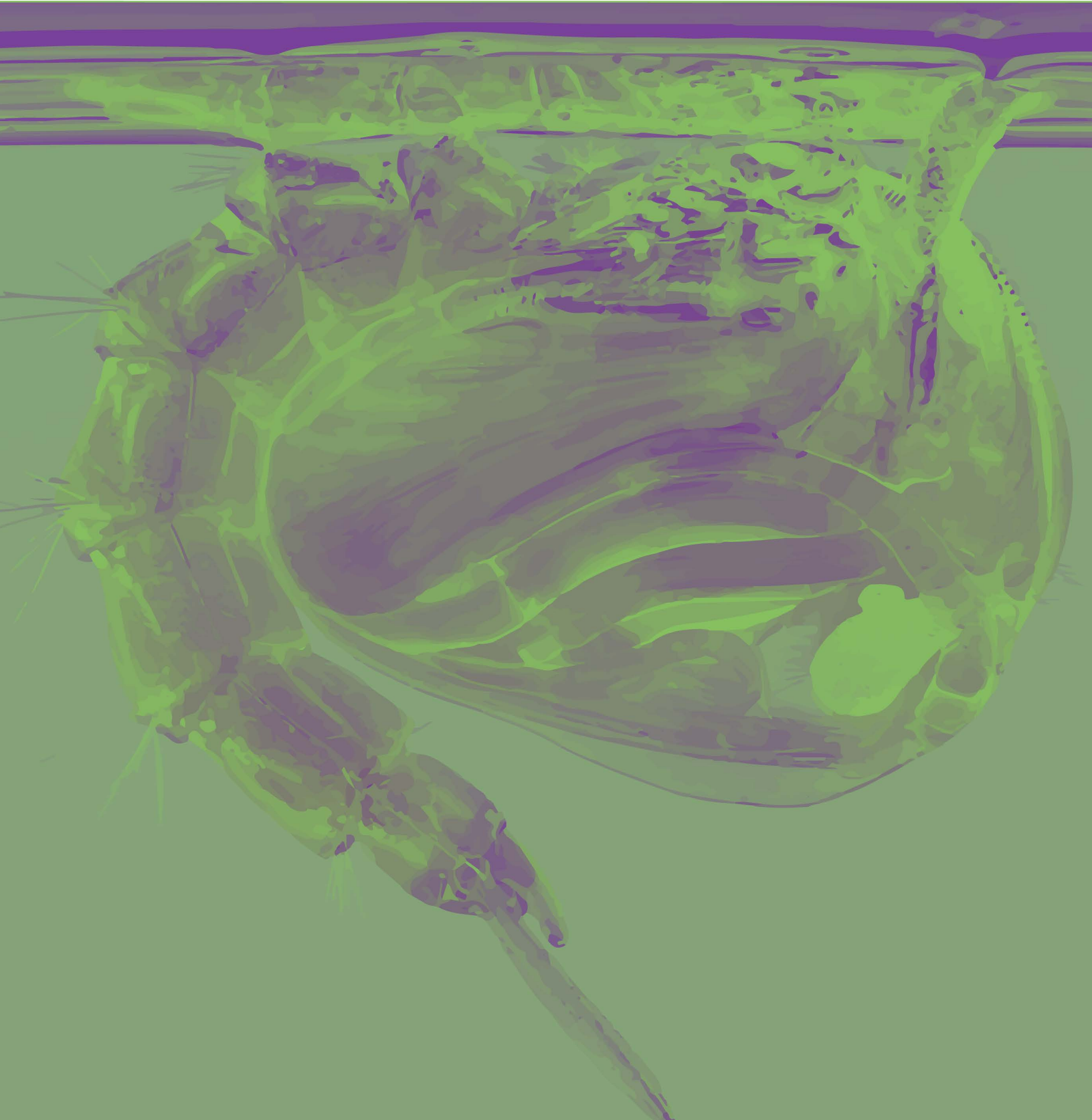


THE SKEETER

Vol. 79. No.1

2019 Spring Newsletter



President's Address

Happy spring to all!

Spring is here, mosquitoes are starting to appear. I would like to first thank everyone for the opportunity to lead the Virginia Mosquito Control Association this year. I would also like to express my gratitude to everyone who made our 72nd annual meeting a great success. I appreciate all of the presenters who shared their studies, experiences, and expertise as well as those whose efforts behind the scenes led to a successful meeting. I am so impressed and excited to collaborate with all of you to propel our organization to the next level.

We have some great opportunities coming up in May and June. May will host our Annual VMCA Adult Mosquito Identification Course. Please take advantage, newcomers from any organization, of this opportunity to learn about mosquitoes in a biological view as well as a technician outlook. If anyone is interested, see pages [10-12](#) for details and contact Karen Akaratovic (kakaratovic@suffolkva.us) to sign up. Mosquito Control Awareness week will be held June 23-29. This will be a great time to educate the public about mosquitoes and reinforce the importance of mosquito control programs.

We are also looking for new ways to advance VMCA throughout the state. This would be a great time to join a committee and share your innovative ideas. Find a committee that peaks your interest and bring your skills to the table. After all, committees are the backbone of our organization and volunteers are instrumental in our ability to serve the Commonwealth of Virginia. We look forward to learning from one another and growing together as an organization. Please keep up the excellent and very important work! I look forward to serving for and with you this year.

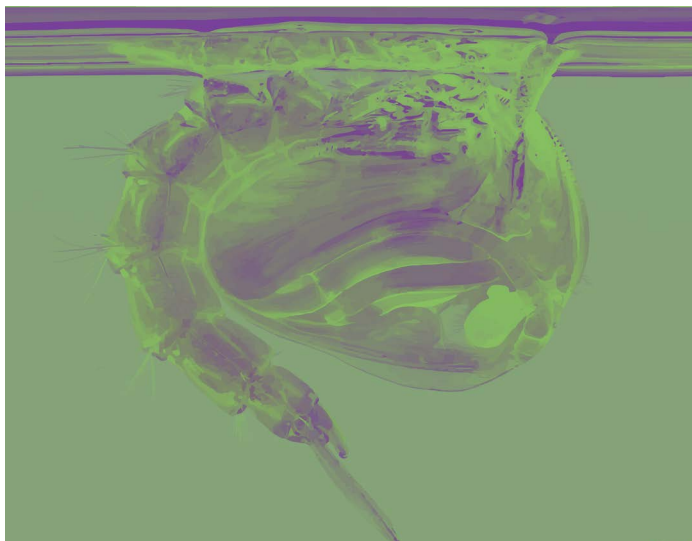


LaToya White
2019 VMCA President

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Announcements



Upcoming Events

TMVCC Adulticide Rodeo

May 8, 2019
Gosnold's Hope Park, Hampton, VA

Great VA Tick Field Meeting

May 13, 2019
Fort Pickett, VA
Contact Holly Gaff (hgaff@odu.edu) ASAP if interested

VMCA Adult Mosquito ID [Course](#)

May 13, 2019
Suffolk, VA
Contact Karen Akaratovic (kakaratovic@suffolkva.us)
ASAP to sign up

21st Annual AMCA Washington [Conference](#)

May 14-15, 2019
Washington, DC

National Mosquito Control Awareness [Week](#)

June 23-29, 2019

VMCA Organizational Mailing Address

Virginia Mosquito Control Association
Jay Kiser, Secretary/Treasurer
800 Carolina Rd
Suffolk, VA 23434
Phone: (757) 514-7608
Email: virginiamosquito@gmail.com

You can now sign up for or renew your VMCA membership online! Visit our website and fill out the form [here](#)



What's That...?

Answer on [page 27](#)



VMCA 2019

72nd Annual Meeting Recap

The 72nd Annual Meeting of the VMCA was held February 5-7, 2019 at the Hilton Virginia Beach Oceanfront Hotel, 3001 Atlantic Avenue, Virginia Beach, Virginia 23451.

A total of 113 people attended the 2019 annual meeting with 12 sustaining members (vendors): excellent turnout!

The first day of the meeting was filled with a variety of presentations including the VA state update on arboviral surveillance, adulticiding, education programs, arboviral testing and larval surveillance methods to name a few. At the end of the day, Joe Andrews gave a heartfelt speech about Dr. Bruce Harrison who passed away in December 2018. Dr. Harrison was a mentor and friend to many in the VMCA and his wisdom and kindness will be deeply missed.



After the last presentation, conference attendees filtered out to the Courtney Terrace for the “Ice Breaker” event to enjoy a few free drinks and delicious hors d’oeuvres while catching up with friends and colleagues and discussing the latest news in mosquito control. As if that wasn’t enough, the Hospitality Suite was open from 7pm until late night for even more food and drinks to be enjoyed. Everyone had a great time visiting, as always. Special shout-out to the Hospitality Committee for always doing a great job preparing treats for everyone and to the vendors who supplied the “juice.”

The next day of the meeting began bright and early at 7am with a great breakfast and many informative presentations including our annual VDACS update, details on the new invasive Longhorned Tick, various components of field work, and student poster presentations. The luncheon and award ceremony followed where three awards were given out by VMCA President George Wojcik (see photos on next page).

After lunch, the meeting reconvened with talks of fire ants and pigeons, larval control, and pesticide resistance across the state. Following the last presentation, the Student Competition Committee (SCC) announced the winner of the 50:50 Raffle. Low and behold it was our incoming President, LaToya White! Congratulations to LaToya (pictured below) and thank you to all the members who purchased tickets and helped raise money for the SCC student award! Immediately following the raffle drawing was the Silent Auction, also sponsored by the SCC. Thank you to everyone who donated or bid on items! See the article below to see how much money was raised from both events.



From left to right: Honorary Member Award: Joe Strickhouser, Dr. Jorge Arias Student Competition Award: Amanda DeVleeschower, and Distinguished service award: Karen Akaratovic

Throughout the meeting, the Merchandise Committee was selling lots of cool mosquito swag for member enjoyment. New t-shirts and hoodies were a huge hit, as were color changing mugs, stemless wine glasses, pint glasses, and a variety of other items. This year, 3 people submitted artwork (shown below) and the committee chose to use all 3 for their items. Thanks to everyone who purchased merchandise at the meeting. If you forgot or weren't able to attend, don't fret! You can visit the [Merchandise page](#) (will be updated soon) or contact [Tim DuBois](#) to make a purchase and pick it up or have it shipped to you!



Artwork by (left to right): Rachel Kempf, Alex Riley, and Karen Akaratovic

The last day of the conference began with a delicious breakfast buffet and great talks about new products, rodents, trapping experiments, human WNV cases, MAMCA and AMCA updates, and the expanding range of the invasive *Aedes aegypti*. After the last presentation, the business meeting began where several events transpired. First, President-Elect LaToya White presented the Presidential Plaque to George Wojcik (pictured on the next page) for outstanding leadership as VMCA President in 2018. Next, the election results were announced and Wes Robertson (pictured on the next page) from Henrico County was elected as the newest addition to the VMCA board as First Vice President.

The business meeting resulted in the approval of a Photo Contest as suggested by Wes Robertson and sponsored by Central Life Sciences. The details of the contest will be discussed by the Photography Committee. An award for Dr. Harrison was also approved by membership. Earlier in the meeting, Charles Abadam introduced the idea for this award that he and the City of Suffolk Biology department (Jay Kiser and Karen Akaratovic) had discussed as a way to honor Dr. Harrison. The suggested award would be titled “The Dr. Bruce Harrison Mosquito Research Award” in keeping with Dr. Harrison’s legacy of decades of research, publishing that research, and sharing his knowledge with the scientific community. The Awards Committee along with the VMCA Executive Board will finalize the criteria and details for the award.

Changes to the By-Laws were also voted in and included redefining the annual membership period, a new voting board member (industry representative), identifying MAMCA and TMVCC representatives’ term limits, and other grammatical and clarifying language. Detailed changes can be reviewed in both Fall 2018 and Winter 2019 [Skeeters](#) and the updated document can be found on the [Bylaws page](#) of the VMCA website. Finally, Randy Buchanan, Legislative Committee Chair brought to everyone’s attention the new EPA regulations that may be restricting or altogether taking Chlorpyrifos off the market along with Malathion and Diazinon. Stay tuned to your emails for important updates regarding this issue.



*2019 First Vice President
Wes Robertson*



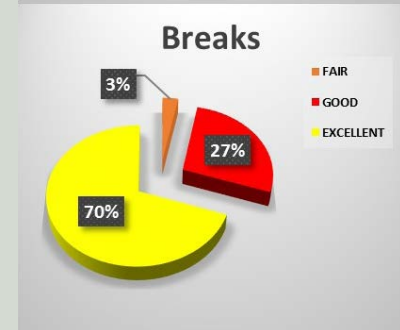
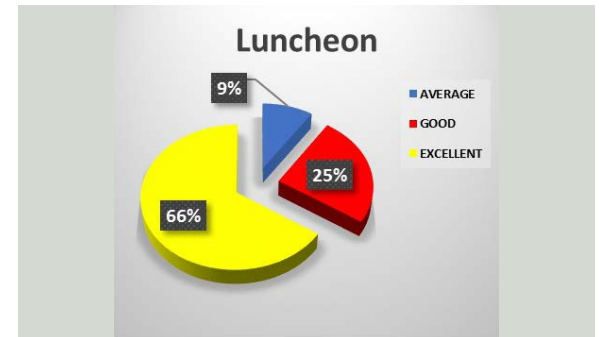
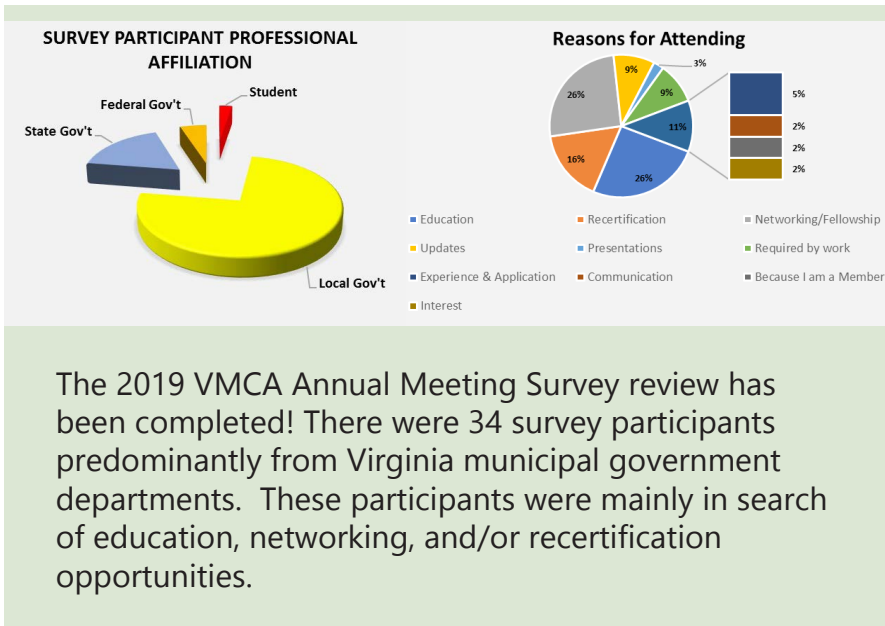
LaToya White (left) wins \$243 from the 50/50 raffle to benefit the SCC.



President-Elect LaToya White presented the Presidential Plaque to George Wojcik

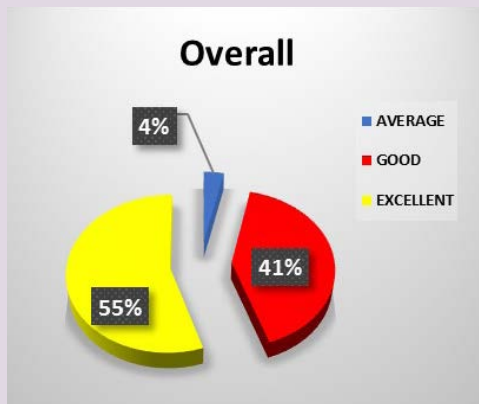
2019 VMCA Meeting Survey Results

-Submitted by Wes Robertson

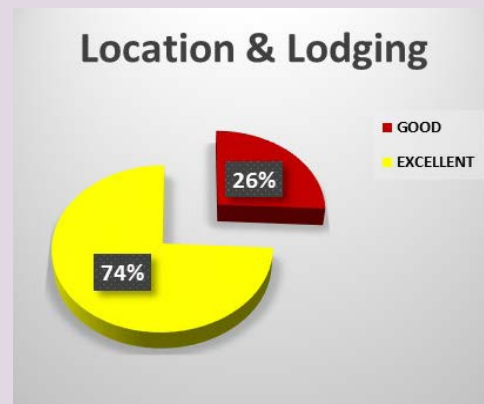


The positive trend was also sustained throughout other conference features as participants indicated substantial gratification with meeting structure, organization, facilitation, and speakers.

The luncheon, break, and hospitality room experiences should also be considered a success given the survey results. That said, there was an indication that "Breaks" could use some attention as it was the only element to receive a "Fair" rating. One participant suggested that "more nutritious" food options should be offered. This was only one of several suggestions which might help improve future "Break" evaluations.



Most of the survey's collected indicated an overall satisfaction with the conference and no ratings of "Fair" or "Poor" were designated.



Participants expressed the deepest satisfaction with the meeting location and lodging. This is despite 14% of those surveyed expressing displeasure with facility parking and validation processes.

Helpful Topics	Number
Survey 123	7
West Nile Virus Talks	5
Bed Bugs	4
AutoTOTS	4
Pesticide Talks	4
Resistance	3
3rd Grade Mosquito Program	3
Combined Sewer Overwintering	3
Longhorned Tick Information	3
Keep Calm and Do Real Stats	3
1803 Yellow Fever	3
Using Property Maintenance Inspections	3
Larval Mosquito Control	3
Surveillance Methods	2
Enemies at the Gate	2
Trapping Methods	1
Ticks	1
Fire Ants & Pigeons	1
Bio Talks	1
VDACS Update	1
Disease Talks	1
Bioagents of CDC	1

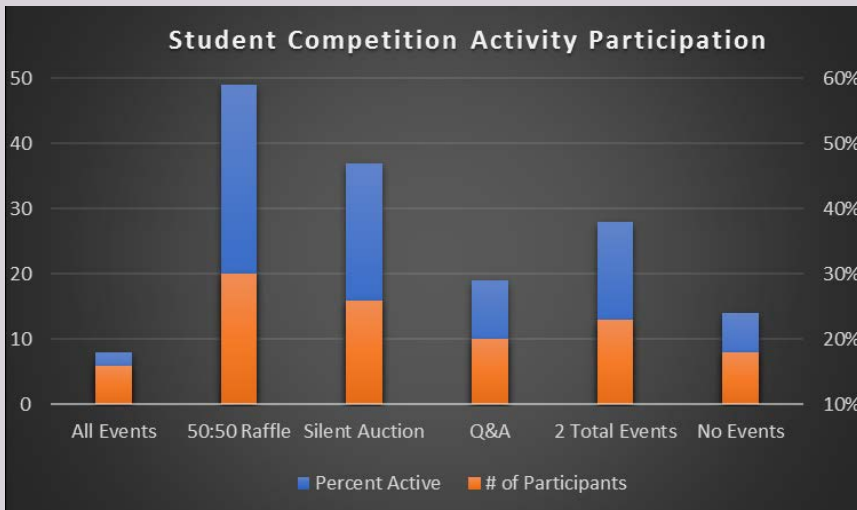
Additional or Expanded Topics	Number
Intergrated Mosquito Mgmt.	5
Rodents	5
Surveillance & Control	4
Field Pests	4
Current Research & Academics	3
Fire Ants	3
Ecological & Environmental Pesticide Impacts	3
Mosquito Biology	2
Overall Variety	2
Project Demos	2
New Management Techniques	2
WNV prediction Methods	2
Epidemology (Localized updates)	2
Variety	2
Bed Bugs	1
Sewer & Inlet Basin Mgmt.	1
Modeling and Response Methods	1
Diseases	1
Updates	1
How to Combat Resistance	1
Veterinarian/Pet Topics	1
Bats	1
Biting Flies	1
Bed Bugs	1
New Data Program, Entry, & Analysis	1
Heartworm	1
Public Health Response	1
Bees	1
Tick Control	1

Topics to Avoid	Number
Updates	3
Basic Mosquito Information	3
Ticks	3
Non-mosquito Pest Control Topics	2
Sustaining Member Presentations	1
Rodents	1
Basic Mosquito Mgmt. Topics	1

In addition to event and facility satisfaction, VMCA membership responded to a series of survey questions centered on presentations, topics, and educational direction. While 2019 saw the implementation of many suggestions and improvements, none were more appreciated than the opportunity to recertify. However, the conference agenda was not circumscribed by recertification topics as a predilection for a variety of topics was expressed. Despite this fact, many members maintain a desire to expand and add topics as well as remove or minimize those subjects deemed unnecessary and/or repetitive.

Chart: A list of topics that members felt either needed to be added or expanded

Another element added to this year's survey was an analysis of those events directly associated with the Student Competition. Members expressed satisfaction with all three events (50:50 raffle, Silent Auction, and Q&A sessions). Although 24% of those surveyed did not actively participate in an event, 59% and 47% joined in the 50:50 raffle and Silent Auction respectively. These numbers suggest that conference attendees were likely involved in at least one event that supported the student competition.



This was further supported as 49% of those surveyed deemed that all three events should be kept in subsequent years. Conversely, 17% of those who participated in the survey believed that alternative support activities and options would benefit competition growth. Some suggestions included creating a student competition VMCA scholarship, having the poster sessions prior to student presentations, increasing event times, and incentivizing members to participate in poster Q & A sessions.

Student Competition Activity Participation (34 persons surveyed)	All Events	50:50 Raffle	Silent Auction	Q&A	2 Total Events	No Events
	18%	59%	47%	29%	38%	24%
	6	20	16	10	13	8

	No opinion	Keep All	Alternative Suggestions	Total
# Participants	12	17	6	35
%	34%	49%	17%	

Note: Total of 35 denotes that at least one survey participant suggested all events be kept in addition to having an alternative suggestion for amendment.

In accordance with the positive trend seen throughout the survey, 18% of the analyzed responses suggested that "No improvement" to any portion of the meeting was necessary. That said, some participants provided suggestions on how the meeting experience could continue to grow and improve.

What would improve the meeting experience?	
Topic	Times Suggested
More academic presentations	2
Improved Parking	3
More Nutrition Food Options	1
Field Demos	1
Less Topic Repetition	4
More merchandise available	1
More Meeting Days	2
More Sustaining Member Contributions outside of product advertisements	1
Catering Presentation Time to Speaker Needs	1
Limit Presentation Times (Shorter Durations)	1
Meeting Flow (Group similar presentations)	1

All things considered, it is this author's opinion that the survey results correlate to the opinions of the entire membership. However, it would be nice to figure a way to access and analyze the opinions of those who did not attend the meeting for consecutive days and/or until it's termination. It's also my belief that, if collected, this information would provide us with additional ideas which could serve to enhance future member experiences.

2019 VMCA Adult Mosquito ID Course

Virginia Mosquito Control Association is holding its annual Adult Mosquito Identification Course on Monday, May 13, 2019 at Suffolk Mosquito Control, 800 Carolina Road, Suffolk, Virginia 23434 in the administration building, training room 128. With last year's positive reviews, we will once again hold the course in one day as opposed to two. The class will be conducted by VMCA's Education Committee and taught by local Virginia mosquito control biologists; we are happy to welcome Henrico County on board teaching this year!

While we aim to be as current and informative about our local (mainly Tidewater area) species as time allows, this class will not be strict taxonomy, but more of a practical training geared toward seasonal interns, summer part-time biology positions, or mosquito biologists new to the area. Class size is limited to 30; attendees should have mosquito surveillance and/or identification in their job description and duties. New participants will take precedence over returning individuals; if space is available then others will be accepted. Sign-up is on a first-come basis so please sign up early!

A light breakfast and lunch will be provided by VMCA. If you have dietary restrictions and/or would like to bring your own food, a refrigerator/freezer and microwave are available.

New this year! In an attempt to help more people, if you would like to attend remotely, we will have a "Go To Meeting" set up so that anyone can tune in to watch and listen to the presentations. You will be able to view each presenter's PowerPoint slides, hear their voice, and watch the class in real time. In order to keep distractions to a minimum, tech support will only be offered at the start of the class so please be prepared to link in early (7:15-7:30 AM). Also, keep in mind that microphone and chat services will be unavailable so remote attendees will not be able to ask questions. For this reason, and for the identification portions of the class, it is highly recommended that a sponsoring biologist/entomologist be present. Below is the information for the meeting. Please contact Technical Support Committee Chair Charles Abadam if you have any questions.

Please join my meeting from your computer, tablet or smartphone.

<https://global.gotomeeting.com/join/611359741>

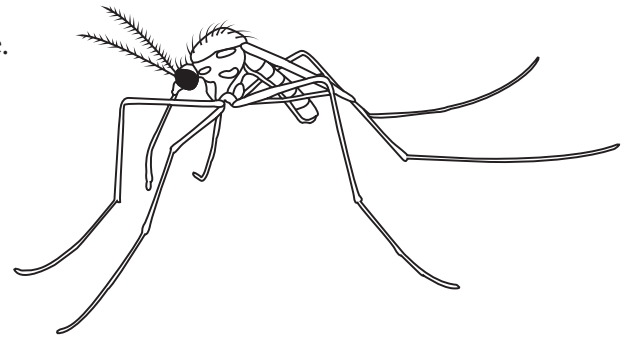
You can also dial in using your phone.

United States: +1 (312) 757-3121

Access Code: 611-359-741

New to GoToMeeting? Get the app now and be ready when your first meeting starts:

<https://global.gotomeeting.com/install/611359741>



2019 VMCA Adult Mosquito ID Course

You will need to bring the following items:

- Microscope with light source
- Harrison et al. 2016 Mid-Atlantic Region ID Guide
- Power strip
- Extension cord
- Forceps
- Petri dishes
- Notebook/pens/pencils
- Refillable coffee mug/tumbler (if you're one of those tree-hugger types)

Supplies (including microscopes) are limited but we will have a few extras on hand.

To sign up:

Please e-mail Education Committee Co-chair, Karen Akaratovic (kakaratovic@suffolkva.us) with participant name, associated city/county/employer, as well as any supplies you lack from the provided list.

This information will also be posted on the VMCA website and Facebook.

Directions:

800 Carolina Rd, Suffolk Virginia may be slightly difficult to find once you get close to the facility. Google maps and other direction software may put the address slightly off target. If you use 800 Tyson Ct, Suffolk Virginia, that might help, or you can follow the directions and maps to the right.

From the North (I-664S/I-264W/I-64W)

Take exit for US-58W/US-13S
Merge right to stay on US-13S, follow signs for Ahoskie NC/Edenton NC/Virginia 32
Go straight through light crossing Carolina Road
Turn left at the yield sign

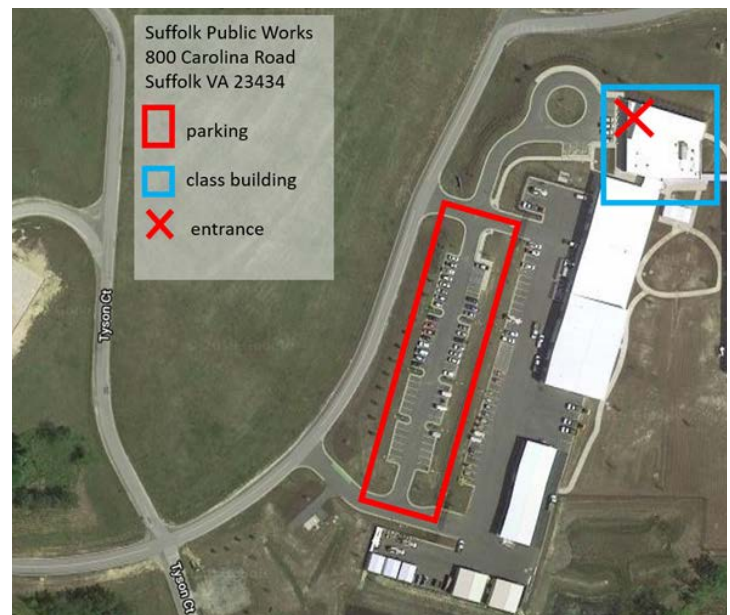
From the South (SR-32N/US-13N)

Merge/stay on US-13N past Suffolk Airport
Turn right onto Tyson Court

Follow the road to the front parking lot (see diagram on the right).

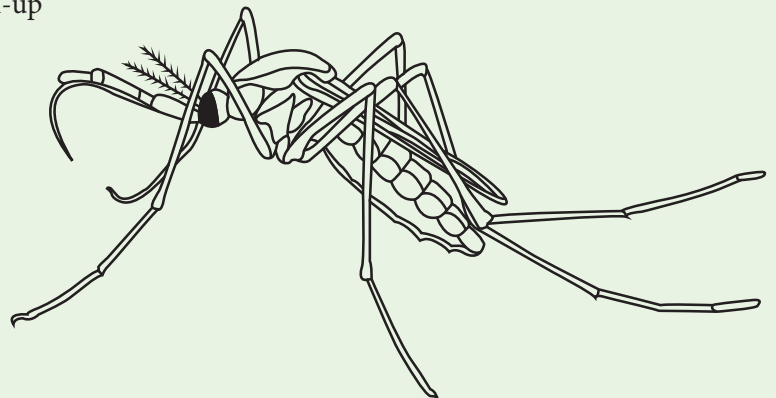
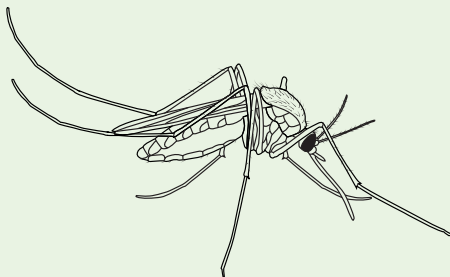
The training room is located in the administration building (see diagrams on the right).

Contact 757-514-7608 for assistance



VMCA Adult Mosquito Identification Course**Tentative Schedule, Monday 5/13/2019**

7:00-7:30	Light breakfast (provided by VMCA) donuts, fruit, coffee, water	
7:30-7:35	Course overview	Karen Akaratovic , Suffolk Mosquito Control
7:35-8:30	General mosquito information, diseases	Wes Robertson , Henrico County Public Works
8:30-8:40	Lab protocols	Ryan Levering , Henrico County Public Works
8:40-8:50	Environmental concerns with field work	Tim DuBois , Portsmouth Mosquito Control
8:50-9:00	<i>Anopheles</i> genus	Michael Bowry , Hampton Environmental Services
9:00-9:10	<i>Culex</i> genus	Karen Akaratovic , Suffolk Mosquito Control
9:10-9:20	“Minor” genera (<i>Cs</i> , <i>Cq</i> , <i>Or</i> , <i>Ur</i>)	Jennifer Barritt , Virginia Beach Mosquito Control
9:20-9:30	Dichotomous key demonstration	Jay Kiser , Suffolk Mosquito Control
9:30-11:30	Identify <i>Anopheles</i> , <i>Culex</i> , and minor genera using microscopes and keys	
11:30-12:00	Lunch (provided by VMCA) pizza variety, water, soda	
12:00-12:20	<i>Aedes</i> genus	Jay Kiser , Suffolk Mosquito Control
12:20-12:30	<i>Psorophora</i> genus	Penelope Smelser , Norfolk Vector Control
12:30-3:30	Identify <i>Aedes</i> and <i>Psorophora</i> using microscopes and key	
3:30-4:00	Trapping demonstration and freezing	Janice Pulver , York County Mosquito Control
4:00-4:30	Breakdown of equipment and room clean-up	



AMCA 2019

85th Annual Meeting Recap

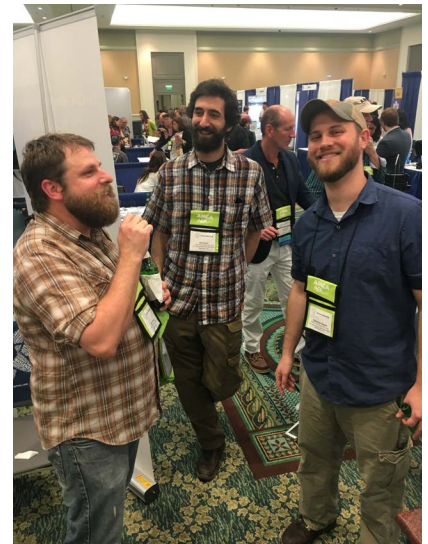
-Submitted by Nate Nagle, Charles Abadam, Andy Lima and Josh Smith

The American Mosquito Control Association held its 85th Annual Meeting in sunny Orlando, Florida from February 25th – March 1st. The meeting was well attended by Virginia this year with eight individuals representing four jurisdictions. The attendees were Josh Smith, Andy Lima, and Daniel Sherwood of Fairfax County Health Department, Ryan Levering of Henrico County Public Works, Charles Abadam and Jay Kiser of City of Suffolk Public Works, and Eli Hosen and Nate Nagle of Prince William County Public Works. Ryan was the first Virginia attendee to be part of the growing Young Professionals Group, a subset of AMCA membership geared towards mosquito professionals with five years or less experience.

On Monday, everyone started to arrive and we got to see some familiar faces while walking around the hotel complex. The Exhibit Hall opened Monday evening with a social and debut of the vendor exhibits. Everything mosquito was on display including new products and equipment, materials, and demonstrations. Many of our industry representatives were in attendance as well. What a great time to catch up with old friends and meet some new people. This was also the first glimpse of the excellent poster competitions. Charles Abadam from Suffolk presented the poster titled “Pesticide resistance testing in Suffolk, VA Mosquito Control targeting *Aedes albopictus* and *Culex pipiens*.”

Tuesday morning the meeting kicked into gear with the President, Bill Walton, addressing the members. This is the time where the association takes a few minutes to present awards and recognition to current and past members that have made extraordinary contributions to the field of mosquito control. During this portion of the program our beloved Dr. Bruce Harrison was awarded AMCA’s Medal of Honor, the organization’s highest given award. It was a great feeling to know that we were a part of his life and life’s work. The keynote speaker, Peter Ryan, gave an interesting presentation on using *Wolbachia* to disrupt arboviruses in *Ae. aegypti*. A second speaker during this session, Manu Prakash, enlightened the audience with frugal science inventions. He highlighted some cheap innovations like a \$2 paper foldable microscope that can view down to 20 micrometers and a human-powered centrifuge that can separate plasma from blood in 90 seconds.

The conference moved on to the different sessions that included adult mosquito control, larval mosquito control, UAS for surveillance and control, operations, research, and more. Insecticide resistance testing was still a hot topic at this meeting with many jurisdictions from across the nation and the world presenting results of their testing. Something new this year was the Lightning Symposium with fast, 4-minute presentations throughout the



Continued on next page

session. Both the Lighting Symposium and UAS Symposium were packed so full that seating spilled into the hallway. Virginia representatives gave two presentations; Mr. Jay Kiser with the topic, “Comparison of Vector Test to RT-PCR during a rampant West Nile Virus year in Suffolk, Virginia” and Mr. Andy Lima with the topic, “*Aedes*, it’s cold outside! Meet the northernmost overwintering population of *aegypti* in the continental U.S.” What an excellent representation of VMCA!

On Thursday, all the members had the opportunity to attend the Field Day where local jurisdictions brought in their vehicles, equipment (including 5 helicopters!), public education and outreach displays, and other unique innovations to display and demonstrate for the membership to view. The capstone to the meeting is the member banquet on Thursday night where a delicious meal is served and further members are recognized. This year we had a treat as VMCA’s own MC Bugg-Z rocked out with three vector raps (Zika 101, Tick Check 1-2, and the latest project-in-progress, West Nile Story). The audience loved the performance and Andy did a great job!



Interesting Notes from Charles Abadam – there were several topics that were very interesting to me this year and I think this was one of the best AMCA meetings that I’ve been to in quite some time. I also came with an agenda to find some answers to our resistance issues that we have encountered in Suffolk. I could discuss this topic ad nauseam but I’d rather highlight some topics that were really cool and interesting to learn about.

- There is a species of mosquito in which the male waits on top of the water, grabs a pupa, determines whether they are male or female, and if they happen to grab a female pupa pulls them onto a solid surface, breaks open the pupal casing, and mates with the female. This is a very vulnerable time because the female does not have a hardened exoskeleton and is very soft so there is a risk to the success of the mating process.

Editor’s Note:

There are at least two genera that share this aggressive mating behavior known as consummatory copulation, *Deinocerites* and *Opifex*. The former uses a chemical stimulus to identify the female, whereas the latter relies on visual cues. Check out the following papers to learn more!

[Observations on the Mating Behaviour of the Crab Hole Mosquito *Deinocerites cancer* \(Diptera: Culicidae\)](#)

[Mating and Pupal Attendance in *Deinocerites cancer* and Comparisons with *Opifex fuscus* \(Diptera: Culicidae\)](#)

- After *Culex pipiens* has taken a blood meal, their body chemistry changes essentially becoming more fit and in a sense become a super *Cx. pipiens*. This transformation helps them to become more resistant to adulticide, so in a sense they can cycle in and out of resistance and susceptibility based on their fitness.
- Kristen Healy from LSU developed a teaching module in the “Minecraft Education” that teaches kids the importance of mosquito control. It is available to the public for use as a teaching aid.
- Kevin Caillouet the director for St. Tammany Parish in Louisiana was able to eliminate gravid traps in his program because they found that a CDC with no light, baited with only CO2 was much better at collecting *Cx. quinquefasciatus* than gravid traps.
- The Common Bladderwort (*Utricularia vulgaris*) is species of plant native to the United States. It is a carnivorous plant that lives in freshwater and has been shown to eat mosquito larvae. If the bladder appendage that is used to eat the larvae is too small to swallow the whole larvae it can still grab onto it and kill the larvae via asphyxiation. This is a biological control method that is new and is being tested in Rhode Island. I thought this would be a cool thing to experiment with ourselves.

Orlando is a beautiful town with some excellent eats. We all had the opportunity to enjoy some of the local cuisine and take some time to relax and enjoy the scenery and each other’s company. Overall, it was another great meeting with good friends. AMCA is THE place to get new ideas for your program and form collaborations to move your respective vector control program forward. We would recommend anyone interested to attend as it is the premier event to obtain the most up to date mosquito information. The conference location moves every year and future meetings will be held in Portland, Oregon (March 16-20, 2020), Salt Lake City, Utah (March 1-5, 2021), and Jacksonville, Florida (Feb. 28-March 4, 2022).

2019 Governor’s Proclamation

The Proclamation for National Mosquito Control Week has been submitted to the office of Governor Ralph Northam. Make your plans now to get the word out about how mosquitoes affect health, the pleasure of the outdoors, and safety.

Things you could do:

- Put an article in local newspapers
- Place information or displays in your local schools and libraries (brochures, pamphlets, posters, etc.)
- Visit Homeowner’s Association meetings

Just a few ideas... think of all the possibilities!

Submitted by: Ann Herring, Chair of the Public Relations Committee

MAMCA 2019

44th Annual Meeting Recap

Submitted by: **Elizabeth Hodson and Ann Herring**

The 44th Annual Meeting of the Mid-Atlantic Mosquito Control Association (MAMCA) took place at the Hilton in Harrisburg, Pennsylvania the week of March 26-28th. There were many interesting, educational, and noteworthy presentations. Dr. Stan Cope discussed potential upcoming mosquito borne illnesses, there were multiple presentations on resistance testing, as well as some interesting outcomes to the abundance of rain last year. During the business meeting, the MAMCA Board agreed to rename the Student Competition Award to the "Dr. Bruce Harrison Student Award" in honor of the late Dr. Bruce Harrison, who passed away in December 2018. Vice President Tom Smith stepped down as President due to pursuing another career and Stephanie Richards became our past-president. Tim DuBois has stepped in as president in order to keep the board aligned with upcoming state meetings. Tim will also be taking the reins as newsletter editor as Dennis Salmen continues to recover from health issues.

During the Luncheon Award Ceremony and Program the Rowland E. Dorer Award was presented to Joe Strickhouser for his many years of work in the Mid-Atlantic states and the Lifetime Achievement Award was presented to Jeannie Dorothy with Maryland Department of Agriculture-Mosquito Control Section. The banquet was followed by a very entertaining talk about the Civil War by Jim McClure that took place in the surrounding areas.

Attending the meeting from mosquito localities in Virginia were: Tim DuBois – City of Portsmouth, Dreda Symonds & Carla Caulkins – Chesapeake Mosquito Control Commission, Chris DeHart & Michael Bowry – City of Hampton, Nate Nagle & Ciro Monaco – Prince William County, Ann Herring – City of Suffolk, and Elizabeth Hodson – York County.

After the meeting, sustaining members sponsored a tour of the local Civil War Museum.

The 45th annual meeting of the Mid-Atlantic Mosquito Control Association will be held in Greenville, South Carolina February 19-21, 2020, please check the website at www.mamca.org for upcoming information.

Merchandise Spotlight: SIC SEMPER CULICIBUS



One of our 2019 unique logos for merchandise this year is quite the work of art. Updating the state flag symbol to reflect a more realistic sense of today's troubles. We have both Men's and Women's tee-shirts as well as a pint glass that has the logo etched in the glass for sale. See the merchandise available on [page 22](#) or visit the VMCA [Merchandise page](#) for ordering information.



Young Professionals Industry Shadowing Program

Submitted by: Ryan Levering

I survived my first VMCA and AMCA conferences without being completely horrified with what I saw! In fact, both experiences further illustrated that I have chosen to work in an amazingly dynamic field with remarkably influential people. My AMCA experience was a little different from other folks from Virginia because I was given the opportunity to participate in the Young Professional's Industry Shadowing Program. I found out about the program on a whim back in December and decided to apply- after all, approval to attend a second conference in the same year would be much easier with a significant travel stipend in-hand. I was accepted into the program and paired with representatives from Vector Disease Control International (VDCI) for the week, shadowing their meeting activities and networking with their partners and clients from across the world. Many of you know Jason Williams, currently with VDCI and former VMCA president, who became a great mentor for me throughout the week. He, along with Dr. Brooz Boze, Dr. Dan Markowski and Kris New were essentially my tour guides in Orlando.

The Young Professionals (YP) group conducted a few exclusive events for those of us who were brand new and looking for professional enhancement. The first of these events was a pre-conference symposium that began with a discussion on the importance of communication with the general public in mosquito management. Lee Cohnstaedt of the USDA asks, "If mosquitoes are killed in a forest and no one is around to see it, does it make a difference"? We all know that it does, but our management efforts are meaningless if Billy Joe doesn't understand how harmful his tire collection can be. Social media, YouTube channels, citizen science projects- these are all creative ways to stay relevant in the eyes of those who are most important because the residents are the ones that we ultimately serve.

The symposium also included roundtable discussions on public relations, 1-on-1 CV critiques, and how to navigate the publishing world. This talk was led by outgoing AMCA president Bill Walton and was very helpful in answering my questions about looking to publish a study for the first time. Later in the week, the YP group held an "Expert Symposium" where members were given table assignments and a fifteen-minute period to chat 1-on-1 with varying industry professionals from different backgrounds. Assignments were chosen based on member interest,



which paired me with folks representing state and federal governments, the US military, pesticide manufacturers, and public relations specialists. Everyone that I spoke with travelled their own unique path to get to where they are today and offered some valuable advice on how to navigate the ever-changing world of vector management.

The Young Professionals group not only provided members with an “in” amongst the many diverse groups at AMCA, but also laid out a vast support system for a rookie like me. I was also fortunate that the folks at VDCI were happy to have me follow them around throughout the week. Remaining attached at the hip was not an expectation, which allowed me the flexibility to attend the talks that I wanted as well as network with other experts and YP’s alike. I am beyond grateful for their support and look forward to staying in touch. All in all, my #1 takeaway was just how valuable this experience was for vector control professionals from across the country to come together to collaborate and continue moving the industry forward. Shameless YP plug: If you’ve been in the industry for less than five years, check out the [Young Professionals website](#) and consider joining.

2019 VMCA Student Competition Committee

Submitted by: Jay Kiser
Photos by: Janice Pulver

During the 2019 VMCA annual meeting, the Student Competition Committee (SCC) held its third annual student poster competition. Six posters were submitted from Virginia university students and displayed in the meeting hall foyer of the Hilton Virginia Beach Oceanfront Hotel. First place and the recipient of the 2019 Dr. Jorge Arias Student Competition Award, with a \$500 grand prize, went to Amanda DeVleeschower from ODU. Her poster was titled “Tracking potential hosts of *Amblyomma maculatum* through wildlife cameras.” First place and all runners-up were awarded free registration to the VMCA annual meeting. Runner-up authors included Kelsey Jones from ODU, Hannah Cummins from ODU, Kaitlyn Dobyms from Longwood, and Andrew Davidson from VCU.

During the meeting, both students and VMCA members participated in a Q&A poster session held in the meeting foyer. This session gave VMCA members a chance to talk one-on-one with the students and investigate each poster more thoroughly. The SCC appreciates the abundant level of participation from our membership this year during the Q&A session and allowing the students to be fully engaged during the session.



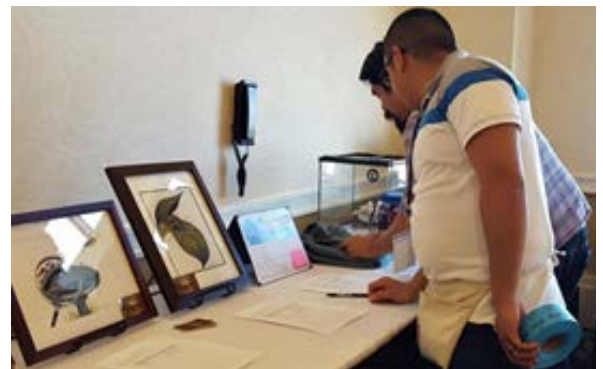
Above: receiving the third annual “Dr. Jorge Arias Student Competition Award” during the lunch banquet at the 2019 VMCA annual meeting. George Wojcik (left), VMCA President, gives Amanda DeVleeschower (right) her award and a check for \$500.

For the third year, the SCC held two successful fundraising events during the annual meeting; a 50/50 raffle and a silent auction. With the help of the SCC, VMCA members, and sustaining members, we were able to collect a total of \$750. This money will be used to fund future competitions that encourage research in fields of vector biology. Throughout the meeting, Francis Valera and Karen Akaratovic were hard at work selling raffle tickets and sold \$486 worth. LaToya White was the lucky winner of half of those collections. Ann Herring spearheaded the 2019 silent auction yet again. With the help of several VMCA members and vendors, she was able to auction off 24 donated items and collect over \$500. If anyone is interested in donating items to next year's auction, please contact Ann Herring at mherring@suffolkva.us

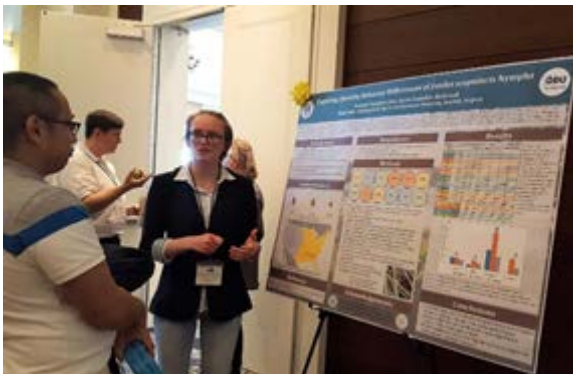


Above: the majority of the 2018-2019 Student Competition contributors. Photo includes students, professors, judges, and committee members.

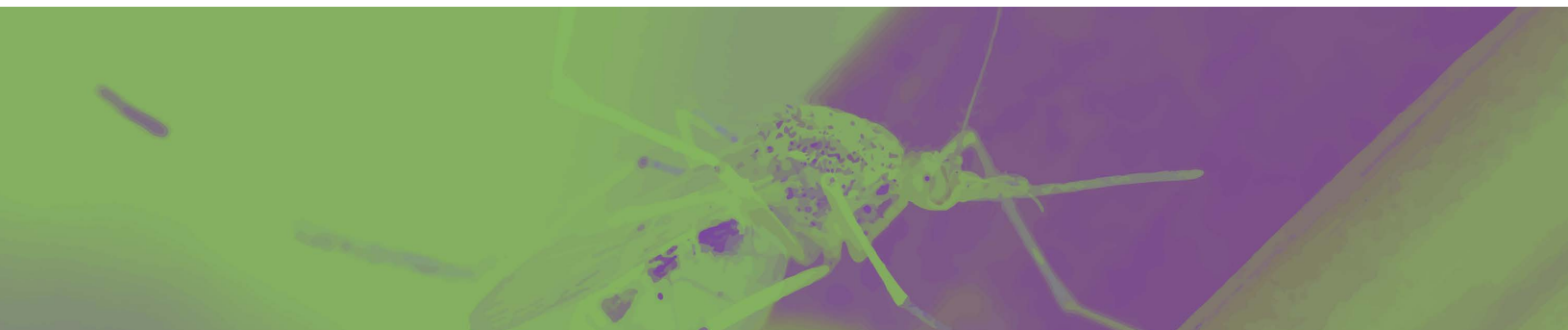
I would like to thank all the students that participated in the poster competition this year. Your participation reassures us that this competition is needed in Virginia and encourages us to keep moving toward our goals. I would also like to thank everyone that contributed to the silent auction and 50/50 raffle this year. Without your donations this program would not have the success it has seen over the last three years and hopefully will see in the years to come. Last but not least, I would like to thank the members of the SCC (including judges). A lot of hard work has gone into this committee over the last three years and I appreciate everything you have done. Looking forward to seeing you next year.



Charles Abadam and Francis Valera battle it out over a silent auction item.



Above: students explaining their posters to VMCA members during the Q&A session of the annual meeting. On the Left, Hannah Cummins is talking about her poster with Francis Valera and on the right, Andrew Davidson is talking with Randy Buchanan.



Virginia Mosquito Control Association
New Membership & Member Renewal Application

MEMBERSHIP TYPE: () RENEWAL () NEW
Mark an "X" in the appropriate box

New to 2019: If you register to the 2019 annual meeting, membership will be complimentary and this form/ payment is not needed. If you don't plan on attending the Annual Meeting, please fill out this form.

NAME:	Regular \$15	
PHONE:	Associate \$10	
ADDRESS:	Student \$10 *Enclose proof of student status	
EMAIL:		
ORGANIZATION:		
	Total Submitted	

Questions or comments can be directed to Jay Kiser, Secretary-Treasurer,
757-514-7608 or email to: Virginiamosquito@gmail.com

The VMCA accepts cash, check, and credit card. Membership forms and payments are accepted on our website at
www.mosquito-va.org.

Jay Kiser
VMCA Secretary-Treasurer
800 Carolina Rd
Suffolk, VA 23434
757-514-7608 office phone
757-923-2484 office fax

Regular Member - VMCA Newsletter, hold office, serve on committees, propose motions, vote, and participate in business meetings.

Associate Member - VMCA Newsletter, participate in business meetings.

Student Member - VMCA Newsletter, serve on committees and participate in business meetings. (Student must be enrolled as part-time or more in an accredited college or university. Student must produce valid College or University ID Card).

Sustaining Member - Exhibit space during the annual meeting and registration for one person. VMCA Newsletter, participation in commercial presentation session, listing in VMCA Newsletter and meeting program, listing on VMCA website.

Online submission form can be found [here](#)

TMVCC Update

-Submitted by TMVCC President Chris Hohnholt

The Tidewater Mosquito and Vector Control Council (TMVCC) held its first meeting of 2019 at the Suffolk Department of Public Works building on Wednesday, March 13th. Alexis White from the Old Dominion University Tick Research Team gave a presentation. Univar's John Singletary sponsored the meeting.

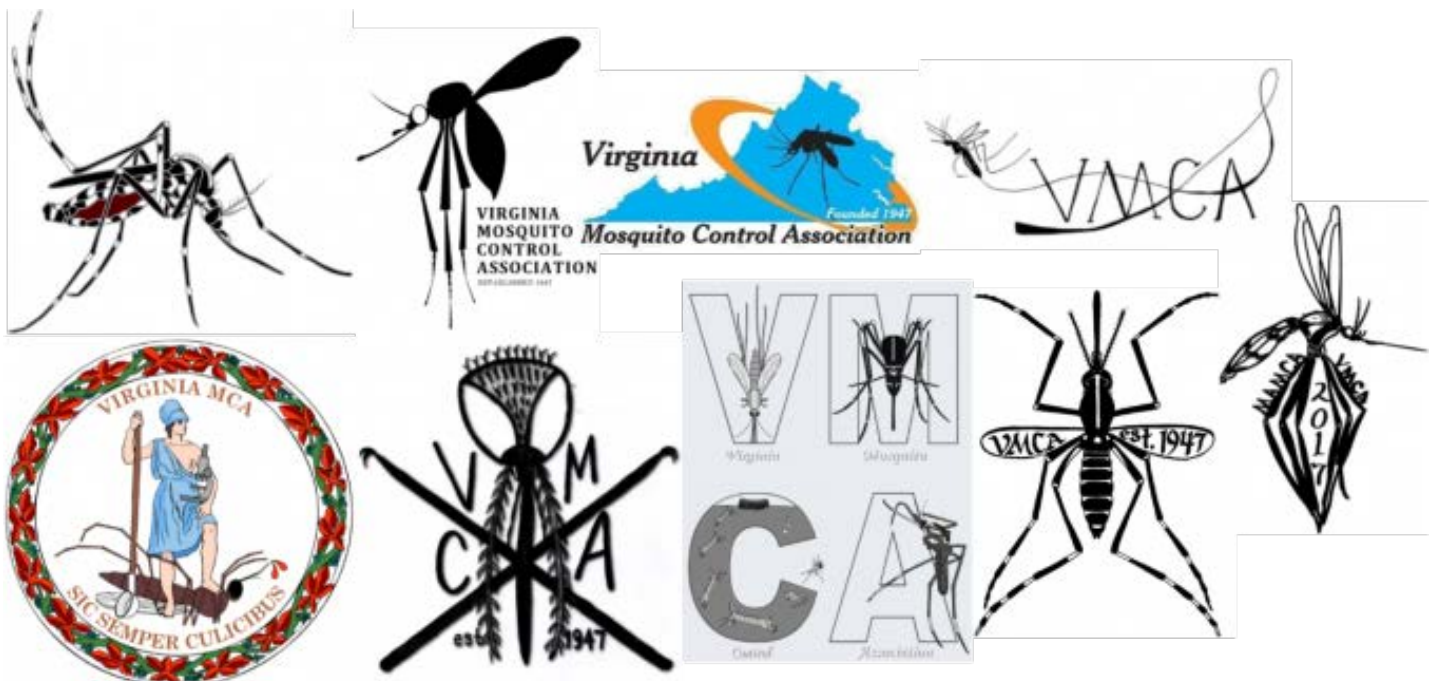
The TMVCC has an exciting line up of speakers this year and the first few meetings are:

- April 10th at the Golden Corral in Chesapeake
- May 8th EQUIPMENT RODEO at Gosnold's Hope Park in Hampton
- June 12th at Tucanos in Newport News

Sponsors for those meetings are Adapco's Ted Bean, Clarke's Jeff Hottenstein, and Central Life Science's Jeff O'Neal.

The meetings are a great place to share information, transfer knowledge, and learn about exciting new chemistries, equipment, and procedures. The meetings are announced a few weeks in advance over email. If you haven't received notifications and you'd like to be added to the list, please send a note to Chris Hohnholt at cahohnholt@gmail.com.

VMCA Designs Past and Present....



Merchandise Sales Continue!

*Didn't get what you wanted at the VMCA Annual Meeting?
 Couldn't attend due to weather, funding, time?*

There's still time to get all that mosquito swag you just have to have!



2019 Blue T-shirt
 Sic Semper Design

\$15



2019 Blue Heather
 Alt Mosquito Zip-
 up Hoodie

\$30



2018 VMCA
 Lettered T-shirt
 Design

\$15



2018 VMCA Flying
 Mosquito Zip-up
 Hoodie

\$15



2017 Gray T-shirt
 with MAMCA/
 VMCA Design

\$10



2017 Gray Hoodie
 with MAMCA/
 VMCA Design

\$20



Heat Sensitive Color
 Changing Mug with
 Blood-Filled
 Mosquito Design

\$5



VMCA pint glass
 with Etched Sic
 Semper Design

\$8



Stemless Wine Glass
 with Albopictus
 Design

\$8



Blue Can Coolie
 with Mosquito
 Silhouette

\$2



Black Leatherette
 Portfolio with
 VMCA Design (pad
 & pen included)

\$5



2017 MAMCA/
 VMCA tumbler

\$5



2018 VMCA
 lettered logo cork
 coaster set

\$4



VMCA sticker with
 Aedes albopictus
 design

\$2



Messenger Bag
 with VMCA
 Crossbones Logo

\$15

The Merchandise Committee is continuing to sell the items listed through local pickup or shipment. If you have any questions or are interested in purchasing something, please contact VMCA Merchandise Chair, Tim DuBois (duboist@portsmouthva.gov). Payments can be made by cash (local pickup only), check, or credit card. Shipping will be paid by the purchaser and will be done through the lowest cost method (unless otherwise requested). This information is also available [online](#).

West Nile Story Lyrics

-Submitted by Andy Lima

The latest from MC Bugg-Z, as shown performed at AMCA 2019

MC Bugg-Z...

Who's heard of West Nile virus? / you may not realize it
 But it's inside of mosquitoes / and they can spread it to people
 So cover up / rock repellent / get rid of standing water
 Mosquito bites can be more than just a bother

No vaccine to protect / no medication to treat it
 That means attention to prevention is the challenge—so meet it
 Empty, scrub, turn over, cover, tip and toss out containers
 Clean up the yard once a week and you'll live your best life later
 Long, loose, light-colored clothes / so no skin's exposed
 To biting mosquitoes / attemptin' undercover probes
 Use repellents to protect yourself / and those that you love
 From the potential health threats / of bein' bitten by a bug...

Who's heard of West Nile virus? / you may not realize it
 But it's inside of mosquitoes / and they can spread it to people
 So cover up / rock repellent / get rid of standing water
 Mosquito bites can be more than just a bother

REPEAT

West Nile is a threat to public health in the summertime
 Been here for 20 years // shout out to Queens '99
 Rapid spread from east to west now it's throughout the continental U.S.
 Culex // mosquito vector with a bird preference
 In nature West Nile cycles between mosquitoes and birds
 When those mosquitoes feed on people / infections occur
 Steady sippin' dusk til' dawn / because they're nighttime biters
 Attack at Twilight / like micro-vampires...

Who's heard of West Nile virus? / you may not realize it
 But it's inside of mosquitoes / and they can spread it to people
 So cover up / rock repellent / get rid of standing water
 Mosquito bites can be more than just a bother

REPEAT

Now luckily / most folks infected will never feel sick
 But some will suffer from fever, rash, aches and weakness
 Though most recover completely / the fatigue can persist
 For weeks or months you could be livin' lethargic and listless
 Unfortunately / any age can get severe illness
 But people older than 60 and the sick have the highest risk
 Of neuroinvasive cases / with lifelong effects
 Encephalitis, meningitis / from a virus that wrecks

Protect from West Nile virus / here's hopin' ya realize
That it's inside of mosquitoes / and they can spread it to people
So cover up / rock repellent / get rid of standing water
Mosquito bites can be more than just a bother

Representin' Vector Controlllllll...

*The mosquito that never bites will never have the chance to change your life.
 Cover up and use EPA-approved repellents when mosquitoes are active.
 It's Bugg-Z and I'm out.*





Armed Forces Pest Management Board

2460 Linden Lane, Bldg 172
Silver Spring, MD 20910
301-295-7476

Weekly Report of Entomology-Related News and Relevant Research Articles

Issue 18, FY 19



Forecasting mosquitoes' global spread

New prediction models factoring in climate, urbanization and human travel and migration offer insight into the recent spread of two key disease-spreading mosquitoes, *Aedes aegypti* and *Aedes albopictus*. The models forecast that by 2050, 49 percent of the world's population will live in places where these species are established if greenhouse gas emissions continue at current rates. <https://www.sciencedaily.com/releases/2019/03/190304182126.htm>

<http://dx.doi.org/10.1038/s41564-019-0376-y> (Original research article)

Protection from Zika virus may lie in a protein derived from mosquitoes

Researchers have successfully reduced Zika infection in mice by targeting a protein found in the saliva of *Aedes aegypti*, the primary vector of Zika virus.

<https://www.sciencedaily.com/releases/2019/03/190311125346.htm>

<http://dx.doi.org/10.1038/s41564-019-0385-x>

Anti-malarial shows promise in human clinical study

An experimental drug, called DSM265, cured seven volunteers of a Plasmodium falciparum infection, a malaria parasite that is a major cause of morbidity and mortality worldwide. The goal of this research is to find a cure for malaria with a single dose, and ultimately, eradicate the parasite.

<https://www.asm.org/Press-Releases/Anti-Malarial-Shows-Promise-in-Human-Clinical-Stud>

Bayer launches combination insecticide to fight resistance malaria

Bayer recently launch a first-ever combination indoor residual insecticide spray called Fludora Fusion in Africa to assist in fighting insecticide-resistant strains of malaria. Fludora Fusion combines clothianidin and deltamethrin.

<https://www.reuters.com/article/us-bayer-malaria-africa/bayer-launches-combination-insecticide-to-fight-resistance-malaria-idUSKCN1QN114?feedType=RSS&feedName=healthNews&rpc=69>

How do insects feel the heat?

Using fruit flies, *Drosophila melanogaster*, researchers have determined that neurons at the tips of their antenna alert the flies to increasing and decreasing temperatures. The work may one day lead to more effective methods of keeping mosquitoes away from humans.

<https://phys.org/news/2019-03-insects.html>

<http://dx.doi.org/10.1016/j.neuron.2018.12.022> (Original research article)

Star Wars and Asterix characters amongst 103 beetles new to science from Sulawesi, Indonesia

A total of 103 new species of weevils are added to the genus *Trigonopterus* from *Sulawesi* whereas. Prior to the study, there had only been a single species from this group documented on the Indonesian island. Having remained undercover due to their tiny size (2-3 mm) and close superficial resemblance, a team of scientists managed to identify the novel species thanks to modern DNA analyses.

<https://www.sciencedaily.com/releases/2019/03/190307103114.htm>

<http://dx.doi.org/10.3897/zookeys.828.32200> (Original research article)

Nematode odors offer possible advantage in the battle against insect pests

Gardeners commonly use nematodes to naturally get rid of harmful soil-dwelling insects. A new study revealed that these insect-killing nematodes also produce distinctive chemical cues, which deter Colorado potato beetles and make potato leaves less palatable to them.

<https://www.sciencedaily.com/releases/2019/02/190226091557.htm>

<http://dx.doi.org/10.1111/1365-2435.13297> (Original research article)

Insects in decline: On farmland, latecomers lose out

Wild bees in Europe are in trouble. More than 50 percent of local species are now classified as endangered. Recent findings indicate that, in farming areas, species that emerge in late summer are most acutely threatened.

<https://www.sciencedaily.com/releases/2019/03/190307103207.htm>

<http://dx.doi.org/10.1098/rspb.2019.0316>

Medieval diseases are infecting California's homeless

A disease dating to the medieval times, typhus, vectored by fleas, has been circulating throughout the homeless population of California.

<https://www.theatlantic.com/health/archive/2019/03/typhus-tuberculosis-medieval-diseases-spreading-homeless/584380/>

Why researchers are re-creating an infamous hitchhiker's month-long journey around the globe

Researchers studied the dynamics of diapausing, invasive brown marmorated stink bug (*Halyomorpha halys*) and sought to examine how the crop pest travels as a "stowaway" aboard cargo ships.

<https://entomologytoday.org/2019/03/06/research-brown-marmorated-stink-bug-month-long-journey-around-globe/>

<https://doi.org/10.1007/s10340-019-01084-x> (Original research article)

Common beetle's gut microbiome benefits forests, holds promise for bioenergy

New research shows how an insect common to the Eastern U.S., the long-horned passalid beetle, has a hardy digestive tract with microbes to thank for turning its woody diet into energy, food for its young, and nutrients for forest growth. These insights into how the beetle and its distinct microbiome have co-evolved provide a roadmap for the production of affordable, nature-derived fuels and bioproducts.

<https://www.sciencedaily.com/releases/2019/03/190311125148.htm>

<http://dx.doi.org/10.1038/s41564-019-0384-y>

An invasive-species success story: The eradication of the European grapevine moth in California

In 2009, the invasive European grapevine moth (*Lobesia botrana*) was found in northern California, and shortly after a collaborative, multi-faceted response was launched by grape growers, the wine industry, University of California researchers, and local, state, and federal officials. The effort was a success, as the pest was declared eradicated from the state in 2016.

<https://entomologytoday.org/2019/03/08/invasive-species-success-story-eradication-european-grapevine-moth-california/>

<https://doi.org/10.1093/aesa/say056> (Original research articles)

Rare butterfly species more abundant in older, wider seismic lines

Seismic lines, used to measure underground oil reserves in Northern Alberta, seem to be good for butterflies, including one rare species. In one of the first studies to measure the impact of seismic lines and other disturbances on development on insects in the Wood Buffalo region, researchers discovered that cranberry blue butterflies, like most other types, appeared to exploit the extra sunshine and more diverse plant life provided by these corridors cleared of trees and shrubs.

<https://phys.org/news/2019-03-rare-butterfly-species-abundant-older.html>

<http://dx.doi.org/10.3390/d10040112> (Original research article)

Do you have issues from the field that the AFPMB can assist in solving? [Please email us](#)

What's That? Answer

-Submitted by Karen Akaratovic

VIRGINIA CAPITAL TRAIL

VirginiaCapitalTrail.org



THAT is a map of the 51.7 mile Virginia Capital Trail that runs from Jamestown to Richmond. The Student Competition Committee is considering utilizing this free, paved trail to host a Mosquito Walk-Run-Bike-athon during National Mosquito Control Awareness Week. This event would be a fundraising opportunity for the committee where we would charge a small fee (< \$50) and provide a goodie bag of memorabilia, first aid and transportation support (should you bite off more than you can chew), discounted food, drinks, and fun for the entire family, including kids activities on the lawn at Indian Fields Tavern (mid-way, near mile marker 22).

Many details need to be worked out, but below is a list of the information we have compiled thus far and our ideas for the event:

Date: National Mosquito Control Awareness Week, either Saturday June 22 before the kick-off, Sunday June 23, or Saturday June 29.

Location: Starting locations vary ([see map](#)); Trail runs from the Jamestown Settlement in Williamsburg to Great Shiplock Park in Richmond, VA

Parking: At least 9 main access points, with several other parking options. All listed on the online map referenced above.

Distance: Choose your own distance! The great thing about this trail is that you can begin your walk/run/ride at whatever starting point you'd like to meet us at the tavern. Then ride back or catch one of the transportation options listed on the next page.

Transportation:

1. [Amtrak](#) fares for coach \$17-23 between Richmond Main Street Station and Williamsburg; \$36-48 between Washington Union Station and Williamsburg ([plus bike fee \\$20](#))
2. [GRTC Pulse](#) for < \$10, serves a 7.6 mile route along Broad St and Main St from Rocketts Landing in the City of Richmond to Willow Lawn in Henrico County
3. [Cap Trail Bike Shuttle](#) fares from \$35-75 depending on number of riders (discount for 2+) and distance with 4 pickup/drop off locations at/near mile markers 0, 20, 40, and 50
4. SCC or other volunteers with pickup trucks will be stationed at 2 points on the trail to offer assistance to anyone that sustains an injury, has an emergency, or simply doesn't think they can make it to the Tavern (mid-way point); 1 volunteer stationed mid-way between Richmond and the Tavern and the other mid-way between Jamestown and the Tavern – phone numbers will be given to registered participants

Restrooms and Convenience Stores: Plenty throughout the route; see map above

Lodging and Camping: For those looking to make it an overnight/weekend trip there are plenty of campgrounds, bed and breakfasts, and hotels to choose from along the trail; see map above

Bike Rentals: multiple locations in Richmond and the Peninsula including James City County Marina (mile marker 0), Pedego RVA electric bikes in Richmond, and Basket and Bike in several locations who will also deliver the bike to your hotel or home!

Another neat aspect of the trail is it includes a free audio tour for historical markers! Download the free app called izi.Travel or click [here](#) to learn more

Stay tuned for future announcements as the committee works out all the details!

2019 VMCA Committee List

[Table of Contents](#)

The VMCA is successful because its members get involved in the operations of the association. Below are the current committees and their chairs. Please join a committee by contacting any executive board member listed on the last page of this edition of The Skeeter!

Committee	Chair(s)	Members	Projects
Annual Meeting (Local Arrangements)	Charles Abadam, Tim DuBois	George Wojcik, Ann Herring, Josh Smith, Ryan Levering, Stephen Rehak	Decides location of future meetings
Annual Meeting (Program/Agenda)	Andy Lima	Jay Kiser, Charles Abadam, Tim Dubois, Mitch Burcham	Organize annual meeting program
Annual Meeting (Vendor Planning)	Ted Bean	Caitlin Sculli, George Wojcik	Vendor correspondence/setup
Audit	Mitch Burcham	Michel Bowry, Penelope Smelser	Annual audit of financial record
Bylaws	Jay Kiser	Charles Abadam, Luz Grant, George Wojcik	Bylaw revision/maintenance
Education	Karen Akaratovic, Lisa Wagenbrenner	Jay Kiser, Ann Herring, Wes Robertson, Jennifer Barritt, Ryan Levering	Recertification, Adult ID course
Elections	LaToya White	Luz Grant, Penelope Smelser	Sets up online voting, sends out voter information, counts votes, announces winners during annual business meeting
Historian	Tim DuBois	John Orr	Historical Archives
Hospitality Room	Luz Grant	MonaLisa Smith	Annual meeting hospitality room
Information	Rachel Kempf, Karen Akaratovic	Charles Abadam	The Skeeter, Facebook, Instagram
Legislative	Randy Buchanan		NPDES, VPDES, PESP
Membership	Jay Kiser	Ann Herring	Keeps updated list of membership
Merchandise	Tim DuBois	MonaLisa Smith, Ann Herring, Luz Grant, Lisa Wagenbrenner, Penelope Smelser, Rachel Kempf	Coordinating sales merchandise for annual meeting
Nominating	George Wojcik		Finds candidates for election, prepares/gathers profiles of nominees for ballots
Photography	Janice Gardner	Caitlin Sculli	Takes photos of VMCA-related events for website, The Skeeter, Facebook, and Instagram
Public Relations	Ann Herring	Ryan Levering	Mosquito Awareness Week/Outreach & Education
Special Awards	Jennifer Barritt	Charles Abadam, Karen Akaratovic, Dreda Symonds, Phil Meekins	Annual meeting awards– R.E. Dorer, Outstanding Service
Student Competition	Jay Kiser	Charles Abadam, Karen Akaratovic, Ann Herring, Ryan Levering, John Orr, Wes Robertson, Dennis Salmen, Francis Valera, George Wojcik	Organizes a student research/poster project competition with an award to be given at the annual meeting, raises funds for award
Technical Support	Charles Abadam	Eli Hosen, Ciro Monaco	Maintains/advises on VMCA hardware/software; operates computer/projector during annual meeting
Website	Karen Akaratovic	Penelope Smelser	Maintains/revises website

2019 Sustaining Members

The VMCA gratefully acknowledges the support of the following sustaining members for 2019. Without their generous contributions, much of what we do would not be possible. Please do not hesitate to contact them. They are here to help you!



Bayer Environmental Science



[ADAPCO, Inc](#)

Ted Bean
(814) 671-6516
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Virginia Mosquito Control Jurisdictions & Other Resources

As a result of revisions to the VMCA By-Laws, the organizational member category was eliminated. In order to facilitate communication among mosquito control programs, jurisdictions with known mosquito and vector control programs are listed below. If there are other jurisdictions that should be listed, please submit them to the editor.

Virginia Mosquito Control Jurisdictions

[Alexandria Health Department](#)
Boykins, Town of
[Chesapeake Mosquito Control Commission](#)
[Chincoteague Mosquito Control](#)
[Fairfax County Health Department](#)
Fort Eustis
[Gloucester County Mosquito Control](#)
[Hampton Environmental Services](#)
[Henrico County](#)
[Newport News Vector Control](#)
[Norfolk Vector Control](#)
[Poquoson Mosquito and Drainage](#)
[Portsmouth Mosquito Control](#)
[Prince William County Mosquito & Forest Pest Management](#)
[Suffolk Mosquito Control](#)
US Air Force / Langley Air Force Base
[Virginia Beach Mosquito Control](#)
[Williamsburg Mosquito Control](#)
[York County Mosquito Control](#)

Other Mosquito Control Organizations

[American Mosquito Control Association](#)
[Mid-Atlantic Mosquito Control Association](#)

Other Resources

[Virginia Department of Health](#)
[Centers for Disease Control & Prevention](#)
[Fairfax County Education and Outreach Materials](#)

Wanted: Submissions!

Do you have information you'd like to include in the next issue of The Skeeter or a photo you'd like to share? We are always looking for organizational updates, operational news, education and outreach activities, pictures, stories, and anything remotely vector-related to include in upcoming newsletters as well as on [Facebook](#) and [Instagram](#).

Please send all items to the Skeeter editor, Rachel Kempf at rkempf@pwcgov.org

THE SKEETER

Newsletter of the [Virginia Mosquito Control Association](#)

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Virginia

Mosquito Control Association

Founded 1947

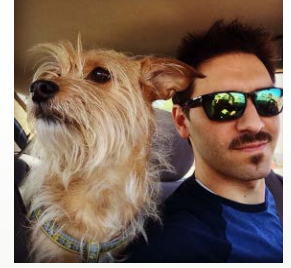
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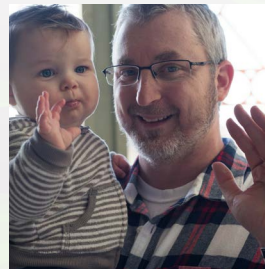
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Take the time to volunteer on a committee! An active membership makes for a stronger organization. Contact anyone on the Board to participate.

The Skeeter is the official production of the Virginia Mosquito Control Association. The VMCA membership is encouraged to submit articles, reviews, and any other interesting facts or tidbits for publication. Submissions can be sent to Rachel Kempf at rkempf@pwcgov.org or Karen Akaratovic at kakaratic@suffolkva.us