

Chairperson Gaasch called the meeting to order at 6:00 P.M.

**ROLL CALL:**

Members Present - Cynn timer Gaasch, Chairperson  
Danielle Bagley  
Jacqueline Balikowski  
Evelyn Hicks  
Tracey Skalski

Absent - Ryan Harrington

Chairperson Gaasch invited Leann Schultz, Brittany Herson, and Alex Goodwin to introduce themselves.

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**PRESENTATION**

The Metagenomics Education Partnership: Harnessing the Power of Microbial Genome Sequencing and Big Data with High School Students and Teachers

Mr. J. Rodemeyer, West Seneca West Senior High School students Marley Brown, Nathan Sobczyk, Emma Fritz, Jack Granville, Aidan Granville, Connor Young, Natalia Pernick, Marion Smith, Grant Cohn, Jayden Ecker. Tyler Harper, Paige Janak, Sophie Robertson, and Gabriella Rupert, and Dr. S. Koury, PhD of SUNY at Buffalo gave the attached presentation.

- Investigated what is in the waterways and impacts on communities
- Explained how the water samples were taken and processed
- Results are available at [EPI2ME](#)

Questions received:

- What are the findings of other groups in the area and the environment in local creeks - Dr. Koury referred to the results available through the EP12ME website; the results can be analyzed to determine if the bacteria identified are normally found in fresh water sources.
- Would oil, or other toxins, dumped in yards be detected - Dr. Koury stated the streams have their own geology and certain bacteria will thrive when they have a carbon source, for example from oil.
- Are concentrations indicated – Dr. Koury stated the results provide a numerical count.
- Will the final report indicate any consequences of the bacteria that is found – Dr. Koury stated the students will report on their findings and with assistance will do some extrapolations.
- Is this a multi-year grant – Dr. Koury stated it is a five year grant.

The Basics of SEQR (the State Environmental Quality Review Act) Basics

Margaux Valenti, Legal Director at the Buffalo Niagara Waterkeeper, and Town of Hamburg Planning Board member, provided the following information:

- The Environmental Commission, as an advisory body, can never be a lead agency for SEQR, but it can submit letters, raise concerns,
- The purpose of the SEQR is to determine if there is a potentially significant adverse effect on the environment from a proposed project
- Classifications of the type of actions determine the level of environmental assessment required

- The impact on the community character can also be a consideration that is evaluated
- A negative declaration of findings means it has been determined there are no significant adverse impacts on the environment
- If it is determined there is finding of significant impact, the developer will be required to provide an environmental impact statement, an extensive review of all potential environmental impacts
- SEQR is just one part of a proposed project
- Wetlands can be either state or federal jurisdictional or non-jurisdictional and propose their own rules
- Storm water run off falls under the DEC's jurisdiction
- Helpful resources:
  - ✓ NYSDEC website: Environmental Notice Bulletin, ENB; Environmental Assessment Form workbook, EAF
  - ✓ Department of State and DEC: SEQR handbook, section 617; and trainings

A member of the audience stated healthcare facilities are still required by law to flush medication and wanted to raise the public's awareness. Ms. Valenti encouraged the speaker to communicate with NYS Assemblyman Burke who is very focused on the Buffalo River and Great Lakes.

Councilmember Piekarec stated there are drug drop-offs provided for residents to dispose of household medications.

Councilmember Piekarec stated the lead agency is determined by the type of request in the Town of West Seneca.

### **MINUTES TO BE APPROVED**

Motion by Ms. Hicks, seconded by Ms. Bagley, to approve the Meeting Minutes of November 29, 2022.

Ayes: All

Noes: None

Motion Carried

### **ISSUES OF THE PUBLIC**

Brittany Hernon stated there are paid internships available for college students and graduates: outdoors from May – September working with invasive species.

### **COMMISSION PROJECTS**

#### Bike friendliness in West Seneca, Center Road approach

- Waiting for response from Chris Holmes of West Seneca Bikes – Chairperson Gaasch stated Mr. Holmes will be providing a written request to the Town Board to review traffic planning, questioning the Center Road project, and offering recommendations about opportunities for West Seneca.

#### Flood plain project with Buffalo Niagara Waterkeeper

- Ms. Hicks stated the goal of the grant is to reconnect Buffalo Creek flood plain between Clinton Street and Harlem Road to the adjacent existing flood plain
- Ramboll, consultant for project, recommended the use of a flood bench, an engineered device to create an area for flows to spread out, dissipate energy, and catch erosion; effective at reducing flood stages and velocities, improving water quality, reducing stream bank erosion, and providing stream bed stability.

- Six potential configurations were identified along Buffalo Creek within the project area; the final report will be submitted to the Waterkeeper. The town will then be sent the final plan for consideration to proceed to apply for a grant to prepare engineering drawings of the chosen configurations that will be supported by additional grants.

Ms. Valenti state West Seneca continues to be an area of focus for the Buffalo Niagara Waterkeeper.

#### Grant opportunity

Ms. Bagley stated she has investigated grants related to tree loss and Phase I of the grant is to do an inventory on tree loss and create a tree management plan for the town Councilmember Piekarec stated he believes the Town Board would support an inventory management plan and questioned if there was a second grant opportunity for impoverished areas. Ms. Gaasch stated it is the same grant and while current state funds have been depleted, additional funds should be available March 31, 2023, and the commission should follow up with the grant writer. Ms. Bagley stated Tonawanda is applying for the same grant and programs are offered by Buffalo State and Davey Tree.

Chairperson Gaasch stated the commission needs to create a plan and identify who at the DEC can assist the group.

### **GOVERNANCE**

#### Election of Officers per Bylaws

Chairperson Gaasch questioned if Ms. Balikowski would continue as Treasurer and Ms. Hicks or Ms. Skalski would be Vice-Chairperson. Ms. Hicks stated she would be willing to take the position or share it with Ms. Skalski. Ms. Skalski stated she would commit to be a co-Vice-Chairperson. Ms. Balikowski suggested adding the option of having co-Vice-Chairpersons in the Bylaws.

#### Potential new members

Chairperson Gaasch stated there are open positions and encouraged those interested to reach out and suggested appointing Leann Schultz as an auxiliary member.

### **NEW BUSINESS**

Chairperson Gaasch requested Ms. Balikowski to review the Bylaws and the Town Code. Ms. Balikowski stated she has reviewed both documents and has the following comments:

- ✓ Clarification is needed for a quorum and the use of majority
- ✓ Update the language regarding a secretary and any subsequent Town Code updates required

Councilmember Piekarec stated generally the advisory boards' quorums are a majority of the number of board positions. Ms. Hicks referred to the recording secretary and suggested adding "in the absence of a secretary being provided by the Town Board, ..." Chairperson Gaasch stated going with the majority would be best as there are vacancies on the board. Ms. Balikowski stated in the event that one of the members has been absent, there would not have been a quorum for the meeting. Chairperson Gaasch stated majority should be further defined. Ms. Balikowski stated she will provide information that provides additional information about quorums.

Chairperson Gaasch questioned the possibility of allowing a youth member to be a voting member and noted youth members are up to 21 years of age. Ms. Hicks stated NYS law allows youth members to vote on administrative items but not financial matters.

Chairperson Gaasch questioned addressing the bylaws and the code together or separately and would like to see the number of required meetings per year changed. Ms. Balikowski stated the bylaws and the code can be addressed together as there were only minor suggestions to the code. The code requires not less than one per calendar year. Ms. Hicks stated the bylaws do state meetings are held monthly and suggested adding the wording "at the discretion of the Chair."

Chairperson Gaasch stated to pursue the strategic planning process, she would like a representative from the DEC attend the March meeting and speak on their environmental priorities that impact West Seneca and will reach out to the newly appointed Chair of WNY. Additionally, the commission should reach out to Assemblyman Burke and tasked herself and Ms. Skalski with this. Ms. Hicks stated she would like Assemblyman Burke to attend a meeting for the commission to bring their efforts to his awareness.

#### National Night Out

Ms. Hicks stated the commission has participated and would like the commission to attend the event in August.

#### ADJOURNMENT

Motion by Chairperson Gaasch, seconded by Ms. Hicks, to adjourn the meeting at 7:25 P.M.

Ayes: All

Noes: None

Motion Carried

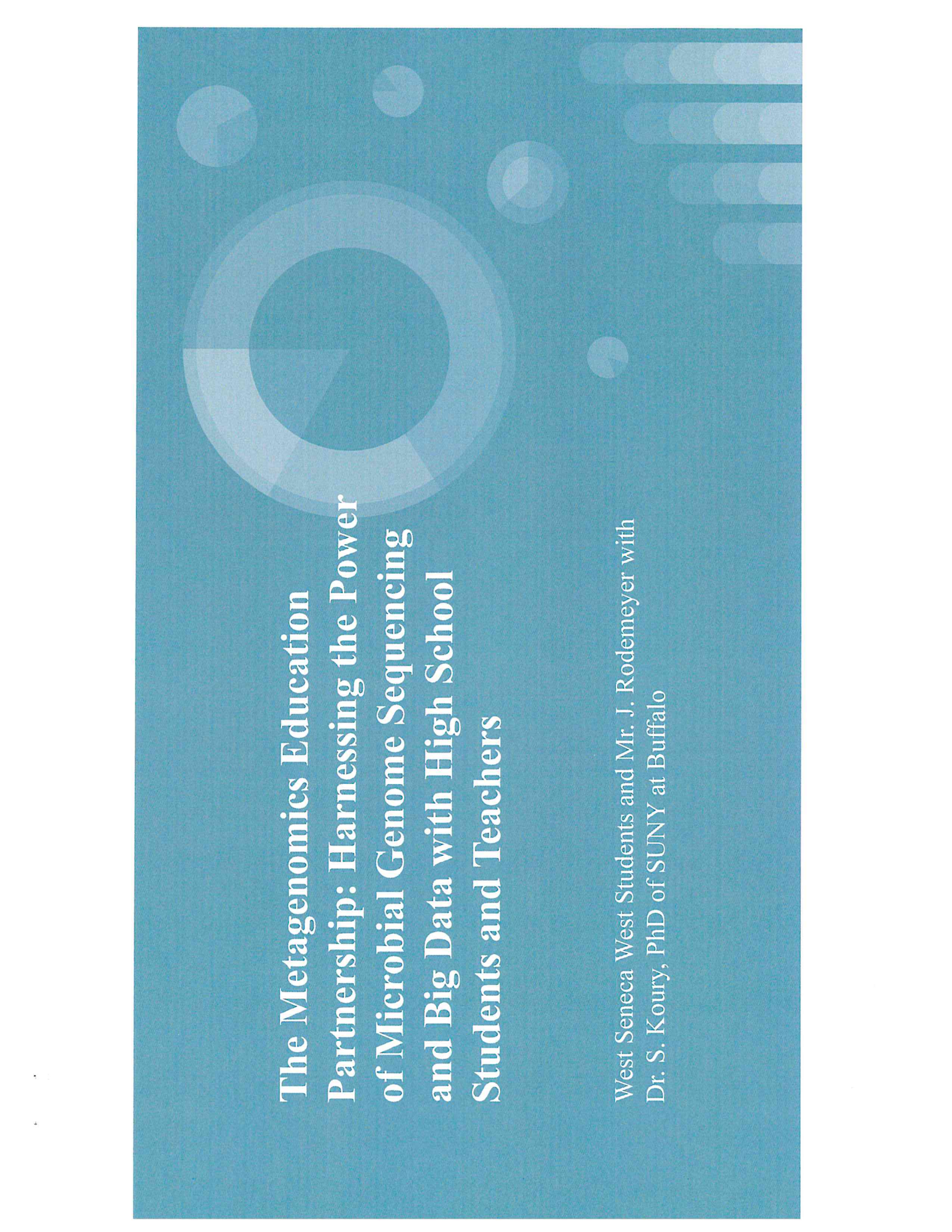
*Margaret A. Martin*

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Margaret A. Martin

Deputy Town Clerk/Secretary to the Environmental Commission



The background is a solid teal color with several faint, semi-transparent geometric shapes. There are several circles of varying sizes, some of which are partially filled with a lighter shade of blue. On the right side, there are several horizontal, rounded rectangular bars, also in a lighter shade of blue, stacked vertically.

# **The Metagenomics Education Partnership: Harnessing the Power of Microbial Genome Sequencing and Big Data with High School Students and Teachers**

West Seneca West Students and Mr. J. Rodemeyer with  
Dr. S. Koury, PhD of SUNY at Buffalo

# Community Partnerships

- NIH Science Education Partnership Award (SEPA) awarded to Dr. Stephen Koury of the University at Buffalo and partners:
  - UB's Department of Biotechnical and Clinical Laboratory Sciences
  - New York State Area Health Education Center System
  - UB's Center of Excellence in Bioinformatics & Life Sciences
  - Buffalo Niagara Waterkeeper
  - Schools of Western New York



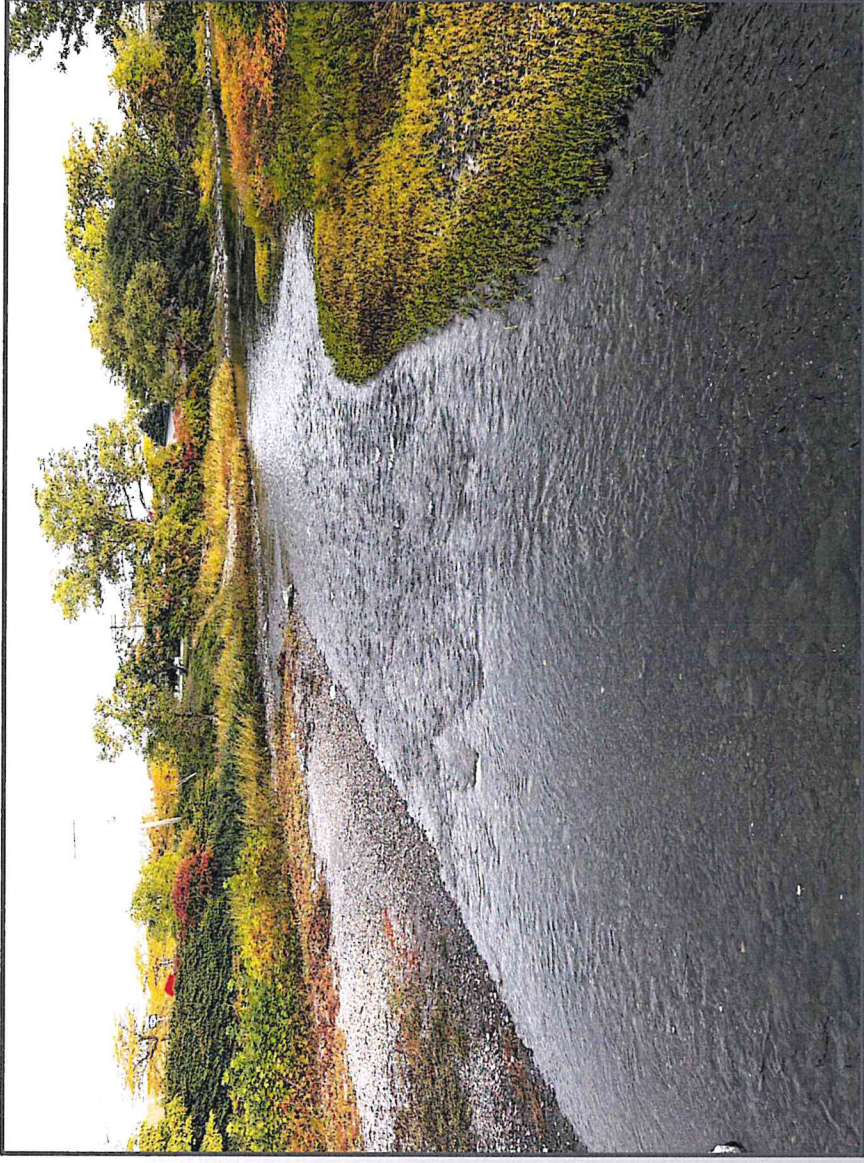
This unique opportunity for teachers and students involves metagenomic analysis of local water samples, generating data on the microbial health and well-being of our waterways.





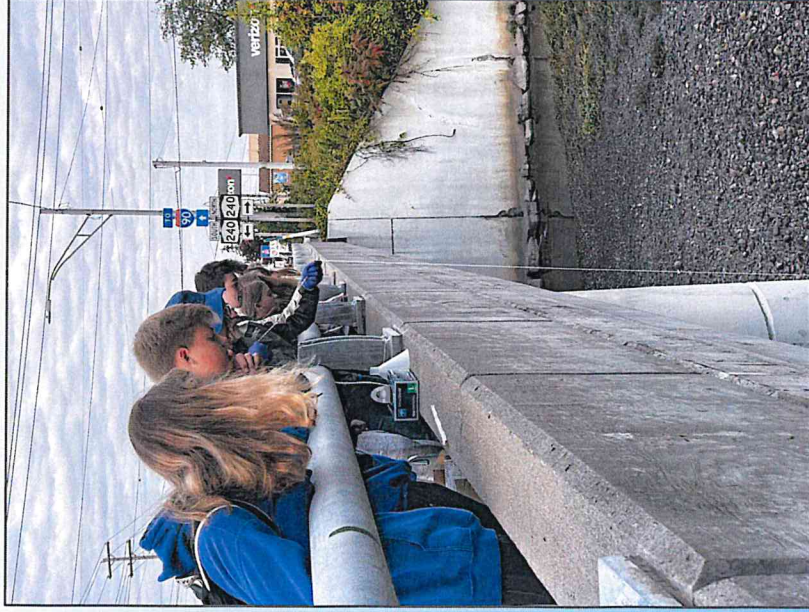
# Sample Collection

Our research started with students collecting two liters of water from Cazenovia Creek located at the Ridge Road bridge.





**Sample Collection, Cazenovia Creek at Ridge  
Road (October 6, 2022, 8:00 am)**



**Water collection device**



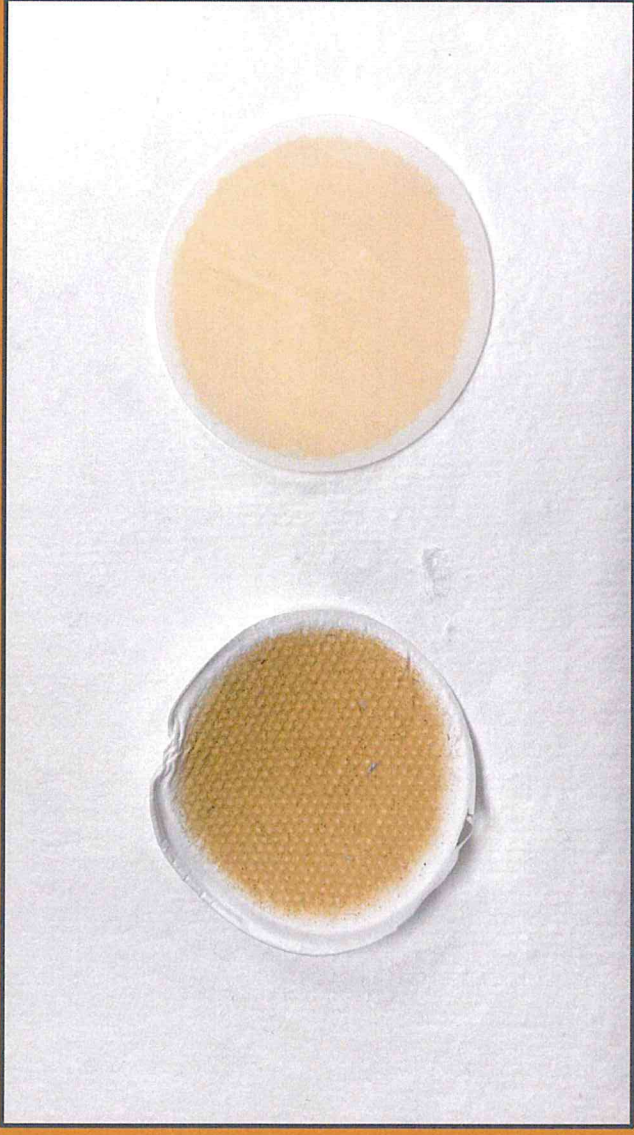
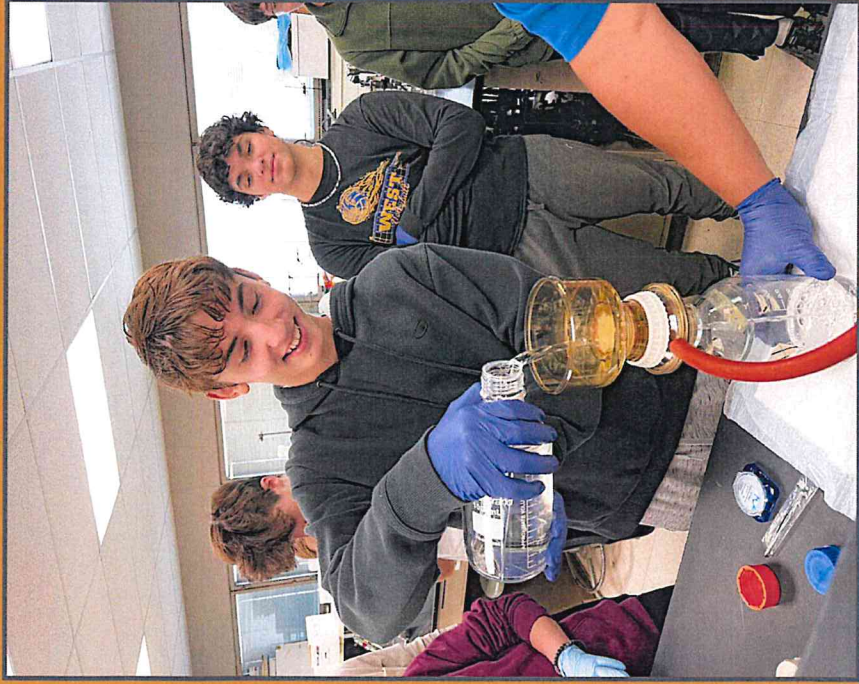
# Laboratory Experience

Students working closely with Dr. Koury on our first day in a clinical laboratory setting.





Sample filtration to isolate bacteria  
from any stream sediments





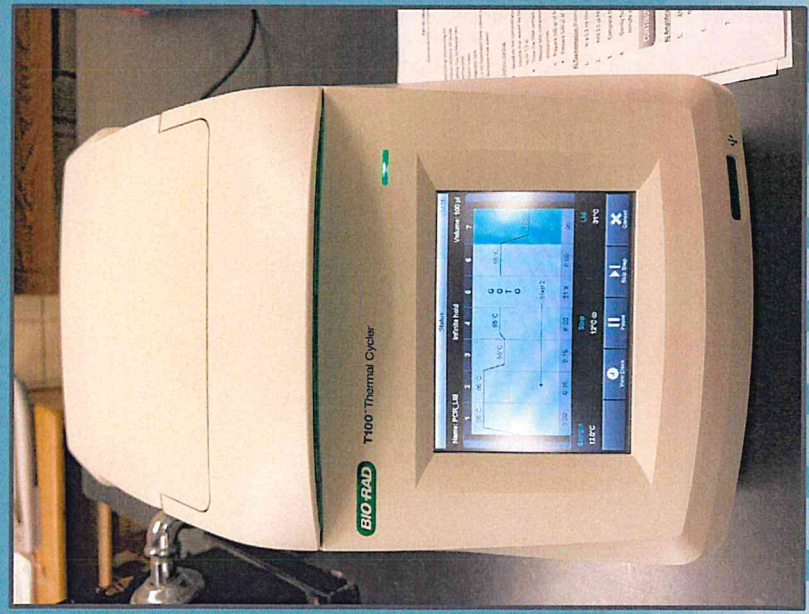
# Setting Up Bacterial Growth Plates



- \*Student samples after incubation
- \*One colony was selected for whole genome sequencing.



Thermocyclers and instrumentation used to read and amplify DNA segments via polymerase chain reaction (PCR) to obtain enough DNA for sequencing





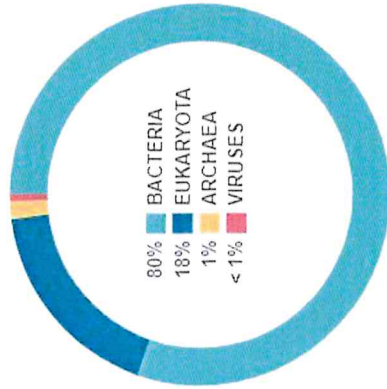
# Sequencing Technology

West Seneca West students will use a new technology developed by Oxford Nanopore Technologies called MinION, which is a portable, real-time device for DNA and RNA sequencing.





# Sequencing Results using MinION



READS ANALYSED  
198,000

READS CLASSIFIED  
42,561

READS UNCLASSIFIED  
155,439

\*Sample only



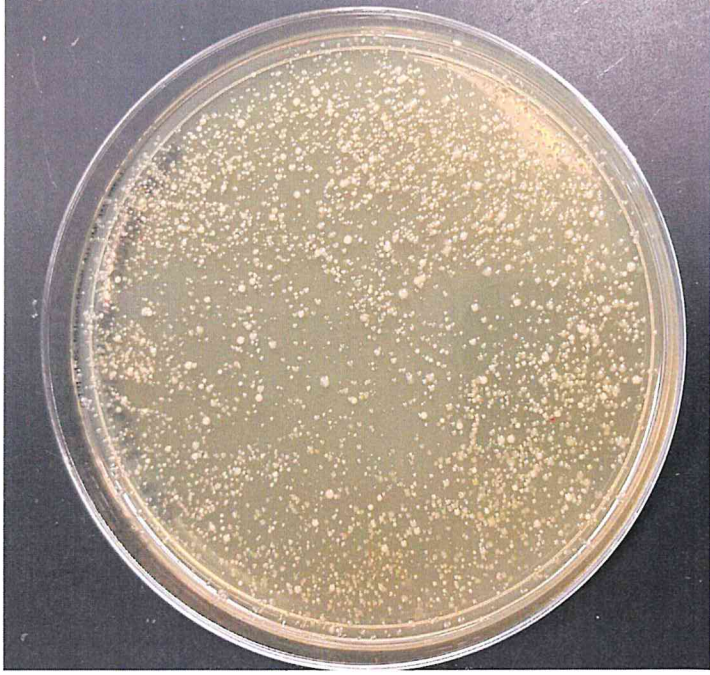
This phylogeny is a representation of our data when sequencing is complete. Our data will then be uploaded for anyone to use.

Using [EPI2ME](#), we can select any organism and start, continue, or add to any future research.



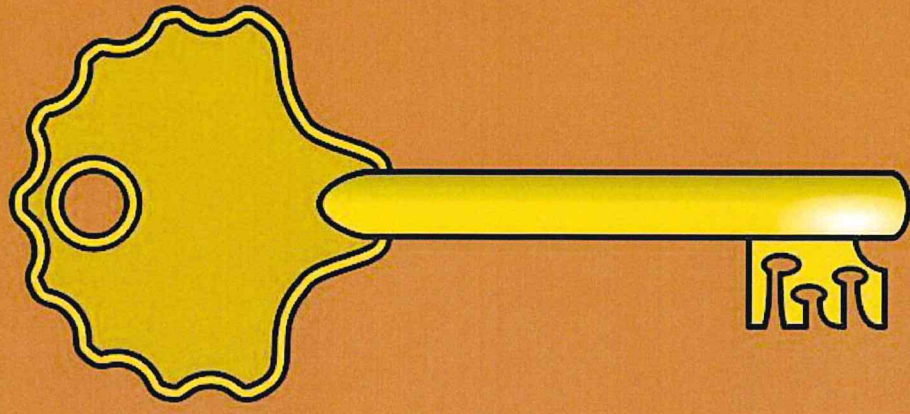


## Upcoming Stages of Whole Genome Sequencing



With our selected colony grown in culture, we will extract high molecular weight DNA.

DNA sequencing libraries will be prepared with the goal of building a genome for bioinformatics analysis.

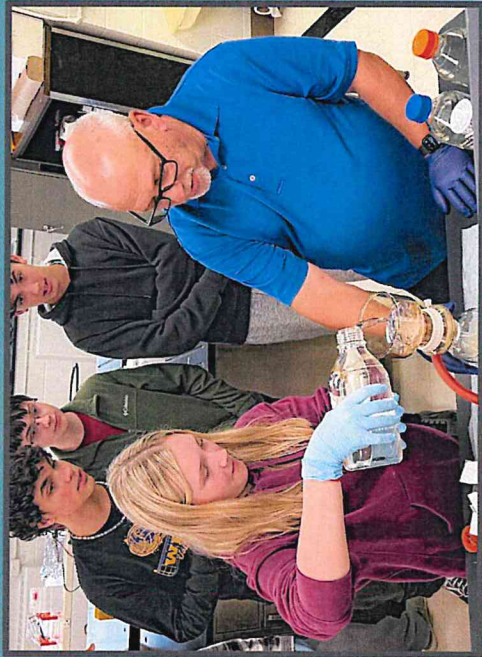


**By design, this work highlights the importance of understanding the makeup of microbial communities in our waterways.**

**This data can help safeguard local resources for current and future generations through education and policy.**



# Student/Teacher Experience





**This project has provided an invaluable experience for our students. When completed, they will have gained an extraordinary view of bioinformatics, research, and STEM programs available. They will also have their names forever attached to genuine genetic research. We could not thank Dr. Koury enough for opening this up to our kids and teachers in West Seneca.**

