Cornell Cooperative Extension of Broome County serves as a dynamic education organization that uses Cornell University’s world-class research and Cooperative Extension network to enhance the lives and well-being of all Broome County residents.

Cornell Cooperative Extension’s dedicated team works with Cornell faculty, agriculture, nutrition and 4-H youth development teams to put research to work to grow, strengthen and sustain a healthy, vibrant and economically strong Broome County.
The new Agricultural Development Center and future Taste NY store now under construction at CCE Broome will create an innovation center with state-of-the-art distance learning classrooms to educate and train food producers, and help them bring their products to market.

While agriculture is the foundation of CCE Broome, our youth development programs, workforce development, horticulture, environment and nutrition programs are helping grow tomorrow’s workforce, providing professional development, beautifying the community and improving the lives of thousands of Broome County residents.

Cooperative Extension uses its unique partnership with federal, state, and local governments to leverage additional resources for Broome County. Our dedicated staff is committed to delivering high impact, results-oriented programs. Our growth means supporting the traditions of Extension, embracing emerging issues and fostering new opportunities. I encourage you to read highlights of our work in 2016. We look forward to partnering with you in 2017 for Broome County’s continued growth.

Victoria L. Giarratano
Executive Director
Board of Directors

Cornell Cooperative Extension of Broome County

Cornell Cooperative Extension believes in shared leadership through locally elected Boards of Directors and active program development committees. Cornell Cooperative Extension applies research from Cornell University to strategically develop and implement programs to meet the county’s priorities and critical community issues.

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<tr>
<th>Name</th>
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<tr>
<td>SHARON COLLETT, President</td>
<td>Nineveh Recruiment Specialist Lourdes Hospital</td>
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<td>KATHARINE ELLIS, Vice-President</td>
<td>Vestal Senior Director for Communications and Marketing Binghamton University</td>
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<td>ANNE CATALANO, Secretary</td>
<td>Vestal Investment Services Manager Tioga State Bank</td>
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<td>SCOTT BAKER</td>
<td>Windsor Representative Broome County Government</td>
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<td>PATRICK DOYLE</td>
<td>Binghamton Doyle Consulting</td>
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<td>TOM ELLIS</td>
<td>Castle Creek Tom Ellis Refrigeration AC &amp; Heating, Inc.</td>
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<td>NICKI FRENCH</td>
<td>Endwell Retired Administrative Coordinator United Way of Broome County</td>
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<td>ELYSIA GUDAS</td>
<td>Binghamton CCE Broome County Master Gardener</td>
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<td>STEPHEN HERZ</td>
<td>Windsor Retired Technology Teacher &amp; Business Owner Hartland Morgans</td>
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<td>KELLI LIGEIKIS</td>
<td>Binghamton Associate Vice-President &amp; Dean SUNY Broome</td>
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<td>MARY MATWEY</td>
<td>Binghamton Retired Computer Systems Administrator CCE Broome County Master Gardener</td>
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<td>PAUL O’CONNOR</td>
<td>Central Region State Specialist Cornell Cooperative Extension Administration</td>
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<td>MICHAEL OLIN</td>
<td>Harpursville General Manager Oliver’s Sales &amp; Service</td>
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<td>JOHN POLLOCK</td>
<td>Vestal Partner Levene, Gouldin &amp; Thompson LLP</td>
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<td>FRED ROTHMAN</td>
<td>Vestal Retired High School Principal</td>
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<td>JASON SHAW</td>
<td>Endwell Representative Broome County Government</td>
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<td>MARK SODON</td>
<td>Binghamton Co-Owner Fusion</td>
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<td>JESAN SORRELLS</td>
<td>Endicott Owner/Principal Conflict Engagement Consultant Human Services Consulting &amp; Training</td>
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<td>JUDI WHITTAKER</td>
<td>Whitney Point Co-owner Whittaker Dairy Farm</td>
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<td>AL VOS</td>
<td>Endwell Associate Professor of English Binghamton University</td>
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Finance Overview

2016 Financial Support and Funding Sources

Cornell Cooperative Extension of Broome County leverages Broome County tax dollars to benefit the county’s economic vitality and residents

In 2016, it is estimated that every dollar of county funding to Cornell Cooperative Extension of Broome County was matched by $6.50 in additional financial, volunteer and Cornell University fringe benefit cost share resources.

2016 FUNDING SOURCES

- **38% Grants and contracts**—Direct program delivery
- **21% Cornell University share of fringe benefits**—Value of employee fringe benefits covered by Cornell University
- **18% Volunteer support**—553 volunteers donated over 25,000 hours valued at $544,750
- **11% Broome County**—Operations and direct program delivery
- **8% Program operations**—Includes donations, user fees, interest earnings and transfers
- **4% State 224 and federal Smith Lever**—Direct program delivery

Building Strong and Vibrant New York Communities

Cornell Cooperative Extension is an employer and educator recognized for valuing AA/EEO, Protected Veterans, and Individuals with Disabilities and provides equal program and employment opportunities.
Agriculture
Growing Broome County

Agriculture plays a vital role in Broome County’s economic vitality and is central to supporting a healthy community. Each year, Broome County’s farms and agribusinesses produce $31 million in sales and $100 million in business investments.

Thanks to the support of New York State Assemblywoman Donna Lupardo and the NYS Department of Agriculture and Markets, the Broome County Regional Farmers Market and new Agricultural Development Center (to open in 2017) will create a hub for agricultural production, marketing, sales and distribution. The Agricultural Development Center will be home to a distance learning classroom, commercial kitchen, Taste NY market and food systems career center that will train food producers, help them bring new products to market, and support the next generation of farmers and food entrepreneurs.

The new facility will provide space for video conferencing, workshops and classes for certification training, product development, marketing, hydroponics and food safety. The new Taste NY market will offer farm fresh products straight from the adjacent Farmers Market. A vibrant local food economy is just ahead for Broome County.

The state-of-the-art classrooms will provide access to world-class research from Cornell University’s College of Agriculture and Life Sciences, NYS Department of Agriculture and Markets and the National Institute for Food and Agriculture, U.S. Department of Agriculture to ensure a pipeline for tomorrow’s agricultural workforce. The Agricultural Development Center will also house the Northeast Organic Farming Association (NOFA) and USDA Milk Test Lab.

CCE Broome County’s team of educators, Regional Farmers Market, commercial kitchen, new Agricultural Development Center and Taste NY store are coming together to provide a unique opportunity for area farmers and food entrepreneurs to create, market and sell their products, and serve as an incubator for new products and agribusinesses.
The Broome County Regional Farmers Market opened June 2016 with farmers and agribusinesses ready to sell their goods and customers eager to shop. Local vendors sell fresh produce, locally raised meat and eggs, baked goods, jams, jelly, honey, maple syrup, dairy, flowers and plants, bath and body products, wines, beers and cider. The market partners with community groups, musicians, and CCE Broome’s nutrition educators to provide tastings and recipes that feature the local, in-season produce. The market is open year-round on Saturdays from 9:00 a.m. to 1:00 p.m. and on Tuesdays, May through October from 4:00 to 7:00 p.m.

The Regional Farmers Market is changing the landscape of agriculture in Broome County and helping increase the profitability of agricultural producers throughout the region. Farmers report numerous benefits to their business. Because the market is open year-round, farmers are able to extend their growing and selling season, increase winter crop production with greenhouses and increase the diversity of their products. Farmers are producing new value-added products to meet customer demand in the new market. Most of the farmers and producers in the Farmers Market report increased sales. Some report doubling or tripling their sales from 2015, and some have grown to the point of hiring new employees to help with increased sales and production.

By getting to know local farmers, customers are learning about the foods they eat and their nutritional value, how to prepare new foods, how they are grown and how they traveled to the market. The market’s affordable prices makes buying local more accessible to low-income families. The market accepts both EBT and WIC checks.

With the help of Maines Paper & Food Service, Welsh Restaurant Equipment and Blakeslee Restaurant Supply, the Farmers Market’s commercial kitchen is outfitted with state-of-the-art equipment. With support from the Appalachian Regional Commission and Farm-to-School Grant, the commercial kitchen is helping farmers bring new products to market. CCE Broome educators are conducting food safety certification workshops that translate into new business opportunities and economic growth.

The Broome County Regional Farmers Market could not have been possible without the tremendous support of our local, county and state officials and community members. We are grateful to NYS Assemblywoman Donna Lupardo, NYS Department of Agriculture and Markets, Broome County Government, Broome County Health Department, The Agency, Broome County Farm Bureau, NYS Office of Parks, Recreation and Historic Preservation and all the Farmers Market’s farmers, producers and customers.
Taste NY

Taste NY at the Broome Gateway Information Center, Kirkwood continues to be a successful model for supporting local agricultural producers. Taste NY stores work with local farmers and agribusinesses to highlight local products. In collaboration with Greater Binghamton Chamber of Commerce, the Taste NY store at the Gateway Center is creating opportunities for local producers to test new products, showcase their goods and often “scale-up” production based on sales at Taste NY’s high traffic location. Hours of operation are 8:00 a.m. to 7:00 p.m. daily.

In Taste NY’s first year, 25,000 customers accounted for over $184,000 in sales. A number of the vendors report that new customers are learning about their products at the Taste NY store and then visiting their farms and local businesses. Cline’s Catering received this feedback from an enthusiastic customer from Philadelphia who wrote, “I purchased one of your turkey on fresh croissant sandwiches at the Taste NY Welcome Center on I-81. It not only looked good but it was better than good with the Sriracha sauce from the condiment center. I will let others know about my experience and hope when I return that I will be able to purchase another!”

Based on the success of the store at the Gateway Center, a second Taste NY will open at CCE Broome as the new Agricultural Development Center is constructed. With its close proximity to the Broome County Regional Farmers Market, the new Taste NY will give local farmers and producers access to certification training, product development, increased production capacity and new customers. What’s more, the dollars spent at both Taste NY stores stay in the county and support Broome’s economy.
Veterans learn valuable farming skills for a second career

CCE Broome serves as the Southern Tier regional network coordinator for outreach to veterans. Veterans are highly suited for careers in agriculture—their ability to think outside the box, plan for the unexpected, self-direction and commitment to seeing their efforts through to completion. The veteran population in New York is close to 900,000.

The Cornell University Small Farms Program received a three-year grant from the USDA’s Beginning Farmer and Rancher Development Program (BFRDP) in 2014 to support military veterans interested in new careers as farmers.

In 2016, CCE Broome worked with 30 veterans in our region to pursue agriculture as a second career. Trainings for veterans focus on growing small fruits, such as apples and strawberries, raising pastured poultry and making maple syrup. Dave Johnson, owner Apple Hill Farm and pictured above, collaborated on a berry workshop on his farm that included 14 military veterans. The new Agricultural Development Center at CCE-Broome will allow this program to expand and serve more veterans in 2017.

CCE Broome’s collaborators continue to be the reason for the Beginning Farmer and Rancher Development Program’s success. Collaborators include the U.S. Department of Labor, U.S. Department of Veterans Affairs, NYS Assemblywoman Donna Lupardo, Cornell University and farmers throughout Broome County who regularly host workshops on their farms.

CCE Broome’s agriculture specialists serve as the “boots on the ground” for established and future farmers in Broome County. Farmers get the tools they need for business planning, learn how to get their farms up and running, and increase farm profitability. Farmers participate in workshops on a variety of topics including poultry, livestock, farm management, risk management and product development.

During 2016, CCE Broome’s agriculture specialists supported 680 individuals looking to start or enhance their farm operations. CCE-Broome’s team regularly provides on-site consultations to farmers on zoning, agricultural district regulations, agricultural assessments, plant diagnostics, herd/flock health, animal well-being, food and farm safety, and farm strategies to increase profitability.

In addition to the agriculture specialists, CCE Broome is part of the South Central New York Dairy and Field Crops Team. The Dairy and Field Crops Team provides technical assistance to address emerging production issues and new technologies.

CCE Broome’s agriculture specialists work closely with Broome County Soil and Water, USDA Farm Service Agency, The Agency and Broome County Farm Bureau to ensure Broome’s farmers receive the most up-to-date information to ensure their continued growth and success.
Agritourism raises awareness about the importance of Broome County farms

In 2016, CCE Broome County sponsored the 5th Annual Broome County Farm Trail, as part of its continuing commitment to providing opportunities for the public to meet their local farmers. Broome County has over 560 farms and a population of 197,000. It is important for everyone to understand local food systems, where our food comes from and who their farmers are.

Twelve farms participated in the 2016 Farm Trail and opened their doors to the public: Aukema Dairy Farm/ Dutch Hill Creamery, Country Wagon Produce, Nyala Alpaca Farm, JADA Hill Goat Farm, HH Riders Trail Club at Camp Sertoma, Verde View Equestrian Center, Old Barn Hollow Local Food and Artisan Market, Sticks & Stones Garden, Nanticoke Gardens, Art Farm, Apple Hills and the Broome County Regional Farmers Market.

Over 4,500 people attended the two Farm Trail events in May and October. Participating farms sold over $30,000 in products for an estimated economic impact of $210,000 in Broome County. Farm Trail visitors participated in guided farm tours, apple picking, an alpaca obstacle course, mini-horse care workshop, seed planting, petting zoos, product tasting, a beekeeping workshop and more. Visitors reported having a wonderful time.

We love the animals and the many activities for kids. We had a great time visiting the farms. Aaron

Thank you for opening your homes to us! It was a delightful time seeing the animals and hearing about the farms! JoAnne

Thank you for a great family event! Tiffany

Funding to support marketing and promotion of the Farm Trail was made possible with funding from the Greater Binghamton Convention and Visitors Bureau, I Love NY Campaign and Broome County Government.
Fantastic Foodies

Fantastic Foodies launch social marketing campaign to buy local

Lights, action camera! In 2016, the Fantastic Foodies launched a social media and marketing campaign to encourage families to buy and eat locally grown fruits and vegetables.

New York State Department of Agriculture and Markets awarded CCE Broome County a grant through the Specialty Crops Block Grant program to develop a marketing campaign aimed at increasing the sales of local produce. The Rock on Café school cafeterias at Broome-Tioga BOCES (grades K-8), and Wegmans in Johnson City signed on as partners for the project. Rock on Café is a service of Broome-Tioga BOCES that operates in 15 school districts throughout Broome and Tioga.

The idea for a social marketing campaign began with a series of questions—what if children understood of the benefits of eating local? What if they got to know the farmers who grew the sweet potatoes and green beans being offered in their school cafeterias, and understood how far the fruits and vegetables had to travel to the grocery store? Would they then encourage their families and their friends to buy local? And what would the economic impact of this be for the local agricultural economy?

The answers to these questions gave birth to the Fantastic Foodies! In 2016, over 30 youth, 8 to 13 years old, auditioned for roles to educate their peers about the health benefits of eating local. Seven young people were selected as the Fantastic Foodies cast members. Scripts were developed, video shoots were scheduled and filming began.

The Fantastic Foodies showcase the benefits of eating healthy and local, where to find local produce—at the Rock on Café, in the produce section at Wegmans and at their local farmers markets—and how to prepare healthy snacks, like fruit smoothies and English muffin pizza. The Fantastic Foodies’ first video had over 6,000 views. One of the Fantastic Foodies was quoted in the Press & Sun-Bulletin about the campaign, saying, “Local farm foods are much better. When you get a chance, it’s good to get things local.”

Collaborators on this project include Wegmans Johnson City, United Health Services Stay Healthy Kids, RVSA Advertising and Broome-Tioga BOCES Food Service.
Ag in the Classroom

New program in 2017 brings agriculture education to the classroom

Agriculture is the #1 industry in New York State. Each year, New York’s agricultural businesses and farms generate over $5.4 billion into the economy. Broome County's agricultural businesses and farms generate $30.7 million in sales annually and over $100 million in business investments.

According to NYS Senator Fred Akshar, “Agriculture is one of the biggest and most diverse industries in our community and the state, but the average age of a farmer in New York is 55. That tells me we need to invest in our future and help educate the next generation on the wide range of career opportunities available through agriculture.”

CCE Broome County’s Ag in the Classroom responds to the need to develop the next generation of farmers and agricultural producers. With support from Senator Akshar, NYS Assemblywoman Donna Lupardo, Broome County Farm Bureau and Broome-Tioga BOCES, CCE Broome educators will conduct Ag in the Classroom in five school districts across the Southern Tier—with plans to expand to all school districts.

CCE Broome is in the process of purchasing and outfitting a trailer for a “mobile” Ag in the Classroom. The mobile classroom will give students experiential, hands-on learning opportunities. The mobile classroom will house a learning lab and experiment stations on incubation, embryology, plant science, animal science, soil science, composting, gardening, ag literacy and nutrition. The mobile Ag in the Classroom classroom will also be featured at the 4-H Education Center at Finch Hollow, Broome County Farm Trail, Broome County Fair, Broome County Libraries, local events, and farmers' markets throughout the county.

We are grateful for the support and collaboration of Senator Akshar, Assemblywoman Lupardo, Broome County Farm Bureau and Broome-Tioga BOCES.
The Master Gardeners’ new training program is using a “flipped classroom” model to allow for more self-paced learning and flexibility in the use of online training options. Combined with an expanded schedule for visits to various venues throughout the county, the new training model has allowed for closer collaboration with Cornell University’s Department of Horticulture’s Garden-based Learning Program. Response to the new training model has been overwhelmingly positive.

Eighty-one active Master Gardener volunteers, interns and garden assistants work closely with CCE Broome County’s Horticulture Department to provide garden-based learning through the Cutler Botanic Garden (CBG). In 2016, the Broome County Master Gardeners contributed over 6,000 hours of service to the community. Working closely with the Master Gardeners, the Horticulture Department educators conducted community beautification projects throughout Broome County, hosted guided tours of the garden, workshops in the Regional Farmers Market and information tables at the Southern Tier Builders and Remodelers Home Show.

In May 2016, Master Gardener Pete Matwey installed entry kiosks and sign-in stations at Cutler Botanic Garden. Since the stations were installed, over 400 visitors have signed in and visited the garden. Tourists have visited from across the U.S. and countries around the world, including Norway, Belgium, Hungary, Canada and Mexico. In 2016, 12 weddings were held in the garden. Five high schools held their prom photo shoots and an art club held “en plein air” painting classes at Cutler Botanic Garden.

During 2016, the Master Gardeners helped develop and maintain community gardens at Tremont Street in Binghamton, Binghamton Urban Farm, Elizabeth Church Manor, Danielle House, C. Fred Johnson Park in Johnson City and at the entrance to Otsiningo Park for Broome County Parks and Recreation.
Environment

Non-native invasive species threaten our food supply, natural habitats and wildlife, parks and recreational resources, and in some cases human health. The economic costs of inflicted by non-native invasive species is staggering, estimated to be over $120 billion dollars per year.

Recently two non-native insect pests, emerald ash borer (EAB) and hemlock woolly adelgid (HWA), became established in Broome County. Experts predict that these insects will infest and ultimately kill millions of ash and hemlock trees, causing serious public safety issues and environmental impacts, and creating economic hardship for local municipalities, homeowners and private landowners.

CCE Broome County provides educational outreach and technical support to help property owners, municipalities and community organizations respond to the negative impacts of these insects.

In 2016, the 4-H Forest Pest Citizen Science Project, funded by a grant from the Finger Lakes Partnership for Invasive Species Management, 4-H youth participated in a real-world science and community service project to graphically depict the potential impacts EAB and HWA will have on local parks and cemeteries. The GIS maps serve as tools for public outreach efforts by vividly showing the large number of trees at risk in our community.

After being trained about insect pests, ash and hemlock tree identification and how to conduct tree inventories, the youth collected data at Otsiningo Park in Binghamton, Arnold Park in Vestal, and Floral Park Cemetery in Johnson City. Using handheld GPS units, the youth rated trees for their hazard potential and carefully recorded the data. Multiple data collection trips were needed at Otsiningo Park where the youth collected data on more than 70 ash trees. After the tree inventories were completed, the 4-H’ers entered the data to create interactive GIS maps, pinpointing where each tree is located. Two of the youth used their work on the project to develop a display for the New York State Fair, where they both earned blue ribbons for their community service project.
4-H Youth Development

Preparing youth for college and careers

4-H Grows

4-H grows here! 4-H is the youth development program of Cooperative Extension and the largest youth development organization in the nation. Created in 1902 to extend the latest advancements in agriculture to the nation’s youth, 4-H has grown to meet the ever-changing needs and interests of communities, while remaining true to the principles of positive youth development, and becoming the largest youth serving organization in the nation.

Broome County 4-H is on the cutting edge of youth programming with urban afterschool programs and hands-on in-school programs fostering STEM careers. 4-H’ers develop competence while developing confidence as they progress through self-guided projects requiring them to set goals and develop decision-making skills. Through community service and civic engagement, youth develop compassion while contributing to improving their communities and the world around them. 4-H believes true leaders aren’t born, they’re grown.

In 2016, National 4-H Council initiated 4-H Grows. Clubs and youth were challenged to incorporate the 4-H Grows marketing plan throughout the year and county and state fairs. The youth fully embraced 4-H Grows and proudly represented the power of 4-H to the public.

One young man is a prime example of 4-H Grows. Clyde began his 4-H journey in the National Mentoring Program, 4-H Tech Wizards. Tech Wizards is funded through a grant from National 4-H Council and the U.S. Department of Justice, Office of Juvenile Justice and Delinquency Prevention.

Through Tech Wizards, Clyde learned the life skills needed to be successful in adulthood. He learned new technology skills by using geographic information systems, ArcGIS software and geographical positioning in community service projects. He created invasive species maps to raise public awareness about the emerald ash borer, and helped establish the Tech Wizards Geospatial Club’s 4-H GeoTrail to promote tourism in Broome County.

Clyde’s skills in computer technology, his positive attitude and leadership skills lead to his selection as a Teen Leader at a Sounds of Nature Camp at the 4-H Educational Center at Finch Hollow. There he continued to grow his public speaking, leadership and facilitation skills teaching elementary school students how to record and mix their own music. Clyde forged new friendships, developed public speaking skills and began to master time management skills. Clyde’s school grades improved and he was accepted into Pathways in Technology Early College High School (P-Tech), a program that supports students in graduating from high school and earning a college degree from SUNY Broome.

Without the supports and opportunities offered by Broome County 4-H, this young man may have slipped through the cracks. In 4-H, we understand true leaders aren’t born, they are grown.
CITIZEN U tackles food insecurity

CITIZEN U is a metaphor for creating a university environment in which teens are empowered to become community change agents and graduate from high school prepared for college, careers and citizenship. CITIZEN U projects promote civic engagement and workforce development among underrepresented youth.

UnitedHealthcare teamed with CCE Broome’s CITIZEN U and Nutrition Department to carry out the 4-H Food Smart Families Program, an initiative designed to tackle hunger and food insecurity through nutrition education in underserved communities.

4-H CITIZEN U Teen Leaders, trained as Choose Health Action Teens, taught students at Theodore Roosevelt Elementary School in Binghamton how to make healthy by taking part in three hands-on, interactive stations.

In the Grocery Store Challenge Shop MyPlate, students were given CITIZEN U BuckS and a shopping list based on the USDA’s MyPlate designed to help the students learn about making healthy food and beverage choices from the five food groups, fruits, vegetables, grains, protein and dairy. At the Taste the Rainbow station, students were introduced to new fruits and vegetables. In UnitedHealthcare’s Dr. Health E. Hound’s Fitness Fun Obstacle Course, CITIZEN U Teen Leaders guided the students through a series of rope ladder, sit-ups, hula-hoop, jumping jacks, push-ups and yoga exercises.

The 4-H Food Smart Families Program has engaged 1,388 children and 7,305 family members since it began at Cornell in 2015. According to Pat Celli, CEO of UnitedHealthcare Community Plan of New York, “Our partnership with Cornell is laying a foundation that will help families create healthy habits that will serve them well for the rest of their lives.”

CITIZEN U’s Operation 4 Cooperation

With all the tensions between police and communities around the country, CITIZEN U Teen Leaders wanted to take positive steps to help create healthy relationships and better understanding between youth people and the police.

Through Operation 4 Cooperation, Teen Leaders worked in partnership with the Binghamton Police Department, City of Binghamton Community Response Team, Broome County Family Violence Prevention Council and Crime Victims Assistance Center to conduct a series of community projects to encourage and support healthy, constructive relationships between law enforcement and young people, and thereby promote safer neighborhoods in Binghamton. The project is funded by a City of Binghamton Community Development Block Grant.

During the holidays, CITIZEN U Teen Leaders put together treat bags and personally delivered them to the Binghamton Police. The treat bags for the police officers contained a handwritten note explaining that the Lifesaver candies were included because “You save lives,” Halo oranges “Because you are angels,” candy “Because you are so sweet,” and apples “Because you pick us up when we fall.”

Sergeant David Baer, City of Binghamton Community Response Team, said, “CITIZEN U is a great tool to build trust between the police and the community itself. It’s very important at these times.”
4-H Tech Wizards

Let's geocache Broome County! Thanks to the 4-H Tech Wizards Geospatial Club, there's GeoTrail in Broome County. Seventeen geocaches are "hidden" throughout Broome County, one in each township—Baker, Chenango, Colesville, Conklin, Fenton, Dickinson, Kirkwood, Lisle, Maine, Nanticoke, Port Crane, Sanford, Triangle, Union, Vestal, Windsor—and one in the City of Binghamton. In addition to promoting tourism, the goal of the GeoTrail is to find all 17 geocache locations, take a crayon rubbing using the supplies at each location, trade some "swag," small toys and souvenirs, and log the geocache find through Geocache.com. Once a person fills in all the spaces, they can return the completed passport to the Cornell Cooperative Extension in Broome County and receive a souvenir coin.

One 4-H'er explained that his group wanted to create the GeoTrail so people could explore Broome County. He said, "We wanted to create our own geocaching/tourism map, so people could come to Broome County and explore how beautiful it is."

Tech Wizards is an after-school, culturally responsive, small-group mentoring program that focuses on building STEM skills. The goal is to involve youth, ages 7-17, in learning civic engagement and workforce readiness skills, and prepare youth for success in school, college and future careers.

During 2016 CCE Broome's Tech Wizards engaged 60 at-risk youth and trained 15 mentors to carry out a host of STEM projects, including projects in videography and filmmaking, robotics, climate change, astronomy, GPS/GIS, and environmental stewardship, as well as animal science and nutrition education. The mentor/mentee teams completed over 900 hours of community service and improvement projects.

4-H Tech Wizards is part of New York’s 4-H National Mentoring Program. The project is sponsored by National 4-H Council and the U.S. Dept. of Justice, Office of Juvenile Justice Delinquency Prevention (OJJDP), New York State 4-H Youth Development Program and Cornell University.
In 2016, *Drone Discovery* was selected for the 4-H National Youth Science Day (NYSD) Engineering Design Challenge. Over 100,000 youth in all 50 states participated in the challenge. 4-H NYSD is the premier national rallying event for year-round 4-H science programming, bringing together volunteers, youth and educators from the nation’s 109 land-grant colleges and universities to simultaneously complete the NYSD challenge.

A team of Cornell Cooperative Extension faculty and staff developed *Drone Discovery*. The team included CCE Broome County’s 4-H Tech Wizards educator, Anne Glasgow, Alexa Maille, NYS 4-H Office, Susan Hoskins, College of Agriculture and Life Sciences, Chip Malone, CCE Genesee County and June Mead, CCE Broome. Using the *Drone Discovery* curriculum, youth experimented with fixed and rotary wing designs, explored remote sensing and programmed simulated drones for real-world drone applications.

Developing the *Drone Discovery* curriculum was a challenge in itself. National 4-H Council needed the NYSD kits to cost no more than $25 and yet provide enough materials for 10 youth to complete the lessons. Anne Glasgow’s ingenuity saved the day! She came up with an idea to simulate flying a drone using a computer-coding site, “Scratch.”

CCE Broome hosted a special *Drone Discovery* event in October to celebrate NYSD and the Expanded Learning Network’s (ELN) recognition of National Lights On Afterschool Week. 4-H’ers in Tech Wizards and CITIZEN U served as team leaders for the event. Mike Harris, owner/operator of Lone Maple Farm, gave a presentation on how drones are used in agriculture. Over 75 youth and parents completed the *Drone Discovery* challenge.

The 4-H Education Center at Finch Hollow has an established track record for delivering high quality, multi-disciplinary programs. The 4-H Education Center utilizes curricula and guest speakers from Cornell University and the Extension system nationally in all aspects of their programming for the residents, schools and community organizations in Broome County. The Center’s relationships with Cornell University, Division of Natural Resources, Department of Horticulture, Department of Ornithology and the College of Agriculture and Life Sciences, mean that the programs at Finch Hollow are research-based, state-of-the-art and innovative.

During 2016, nearly 3,000 youth participated in programs at Finch Hollow. The CCE Broome educators provide hands-on STEM programming for youth, focused on learning about science, the environment and the world around them. The Center’s programs offer Broome County teachers and students hands-on opportunities that bring science alive through scientific observations, experimentation, critical thinking and problem solving. Teachers who bring their students to Finch Hollow are always pleased to know that all lessons taught at the 4-H Education Center meet the New York State Standards for observation, inquiry and learning about ecosystems.

Students from the City of Binghamton School District and Maine Memorial School came to the Center to study macroinvertebrates, animals that have exoskeletons, live in ponds and streams and can be seen with the naked eye. Students used nets to scoop water and mud from the pond, and then used their hands to dig through the nets to find macroinvertebrates. As the students used microscopes and magnifiers to examine the creatures, 4-H educators explained the features macroinvertebrates have that help them adapt to the environment.

Collaborators at the 4-H Education Center include all Broome County School Districts, Broome County Parks, Recreation and Youth Services, as well as Binghamton City Schools District.
Community Development

Preparing tomorrow’s workforce

ELITE

In 2016, CCE Broome’s Step-Up program became ELITE (Empowering Leaders into Tomorrow’s Employment) Career Development Training to more accurately reflect the program’s focus on empowerment, leadership and career development. The goal is simple—give young people the skills they need for tomorrow’s employment.

ELITE brings research-based best practices and caring, skilled adults together to support young people, 18 to 24 years old, in achieving their potential and becoming self-sufficient, contributing members of the community. ELITE partners with local businesses to provide real-world opportunities for the ELITE participants to apply what they learn in the classroom. In 2016, guest speakers included: Staffworks, Weis Markets, United Health Services, UnitedHealthcare, Cracker Barrel, Job Corp, Bridgewater, Fairfield Marriot, Saucy Hog BBQ and SUNY Broome’s Entrepreneurial Assistance Program.

Because the young people in ELITE face many challenges, the supportive relationships, life skills and support services they find in ELITE are particularly important. Participants also learn about “giving back” by conducting community service projects that connect them to the community.

The story of one ELITE graduate illustrates how the program is making difference among the community’s most vulnerable youth while building tomorrow’s workforce. To avoid seeing her siblings placed in foster care when her father died suddenly and her mother was in and out of prison, Olivia stepped into the role of parent. With the support of the ELITE educators, Olivia completed her High School Equivalency (HSE), worked two jobs, moved into her own apartment, saved money and bought her first car—that’s success!

Parent Education

CCE Broome provides a comprehensive and holistic approach to parent education in response to the county’s troubling child abuse and neglect rates, and opiate epidemic. Parent educators work in collaboration with schools, faith-based organizations, rehabilitation centers, local physicians, Broome County Department of Social Services and Family Court.

Parent education classes, funded by Town of Union through the Community Development Block Grant, are held weekly at the Family Education Center in Endicott. In 2016, educators worked closely with 164 families. The goal is to reduce the incidence of child abuse and neglect and assist families in reunifying.

Research and evidence-based curricula including: The Marriage Garden, See the World through My Eyes, and Conscious Discipline are used in all programs. Conscious Discipline has been shown to be particularly effective with parents coping with substance abuse.

One graduate says she found the support she needed through CCE Broome’s parent education program to enter a recovery program and overcome an addiction to heroin. Today, this young mother has regained custody of her child, enrolled in SUNY Broome and hopes one day to become a substance abuse counselor.
Professional Development

The Family Development Training and Credentialing Program (FDC) was developed by Cornell University’s College of Human Ecology, Department of Human Development, NYS’s Council on Children and Families, and NYS Department of State with support from the Robert Wood Johnson Foundation to prepare family workers with the skills needed to apply a strengths-based approach in their work.

In 2016, nine front-line staff completed 90 hours of instruction and received the Family Development Credential. FDC graduates are eligible for six undergraduate college credits and four continuing education credits. The University of Connecticut issues the credential.

One 2016 graduate says that the training increased her ability and confidence to apply a strengths-based approach in her work with high need families. She says, “Thanks to earning the Family Development Credential, I increased my knowledge and realized how important it is to practice mindfulness. It’s now a part of my regular routine.”

CCE Broome also provides professional development training in Advancing Youth Development (AYD), a nationally acclaimed curriculum for front-line youth workers. During 2016, AYD training was offered by CCE Broome’s youth development team through the Expanded Learning Network.

Expanded Learning Network (ELN)

The Expanded Learning Network (ELN) is a coalition of over 60 afterschool providers in Broome County. The ELN is a regional chapter of the NYS Network for Youth Success, a statewide organization dedicated to increasing the quality and availability of out-of-school-time programs. It is coordinated by CCE Broome County in collaboration with Broome-Tioga BOCES with support from the United Way of Broome County.

Research has shown that quality afterschool programs save taxpayers money. Not only do the ELN member organizations’ programs help youth succeed in school and prepare them for future careers, they make it possible for working parents to do their jobs well, knowing that their children are safe, engaged and learning.

NYS Assemblywoman Donna Lupardo helped launch the ELN in 2014 as a collaborative effort between government, schools, non-profits, and afterschool providers throughout Broome County. According to Assemblywoman Lupardo, the ELN makes economic good sense.

At a news conference kicking off the ELN’s recognition of National Lights on Afterschool Week 2016, Assemblywoman Lupardo, Jennifer Conway, President/CEO of the Greater Binghamton Chamber of Commerce and members of the ELN announced the results of a survey showing that the employees of over 400 businesses in Broome County report they rely on the programs of the ELN member organizations. Parents say that thanks to the ELN programs, they can go to work and focus on their jobs, and be confident their children are in safe, caring and academically enriching programs.
Nutrition Education
Using education for a healthier community

Obesity is a serious and costly public health problem. Obesity is a risk factor for many chronic conditions including high blood pressure, high cholesterol, stroke, heart disease, Type 2 diabetes, asthma and osteoarthritis. Alarmingly, these conditions are now appearing in adolescents and children. Over 64% of adults and 36% of children and adolescents in Broome County are overweight or obese—and both statistics are higher than the New York State average.

CCE Broome County’s Expanded Food and Nutrition Education Program (EFNEP) and Supplemental Nutrition Assistance Program Education (SNAP-Ed) are responding to this health problem by educating the public about the importance of a healthy diet and lifestyle.

EFNEP and SNAP-Ed programs offer seniors, adults and youth the tools they need to make better food and activity choices for themselves and their families. Through a variety of outreach and programming efforts, CCE Broome’s nutrition educators are providing the tools needed to make the healthy choice, the easy choice.

Participants in CCE Broome’s EFNEP and SNAP-Ed programs report that they having success. Many are eating more vegetables, being more active, trying new foods, losing weight and feeling physically better as a result of what they have learned through these programs. Participants report having more family meals, reading nutrition labels, using more whole grain products and making walking a regular part of their day.

Evaluations in 2016 showed that most participants increased their consumption of fruits and vegetables and decreased consumption of sugar-sweetened beverages, improved food resource management skills, and improved food safety practices. Participants shared these personal successes:

My children were excited to help make and try the new foods. I didn’t know it would be so easy to get them to try new things!

I have been eating better and lost weight since beginning the classes.

I told my friends about the amount of sugar in our drinks. I will not forget measuring the sugar in our drinks.

During 2016, CCE Broome’s nutrition educators partnered with Broome County Department of Social Services, Broome County Health Department, Broome County Office for Aging, Broome County School Districts, CHOW, Fairview Recovery Services, Family Enrichment Network, Food Bank of the Southern Tier, Healthy Lifestyles Coalition, Mary Wilcox Library, Opportunities for Broome, Mothers & Babies PAL, Family Resource Center, Broome County Promise Zone, Binghamton Rescue Mission, Southern Tier Independence Center (STIC), Broome County Urban League, Volunteers of America, Weis Markets, YWCA, YMCA and numerous faith-based and community organizations.