

**QUESTIONS REGARDING REGISTRATION?**

Call 609.652.4227

**QUESTIONS REGARDING CONTENT?**

Call NJ Pinelands Commission at 609.894.7300, ext. 125

To register online:  
stockton.edu/pinelands

To register by mail:

SEND THE FORM BELOW WITH PAYMENT TO:  
Stockton University | Continuing Studies  
101 Vera King Farris Drive  
Galloway, NJ 08205

**YOUR ITINERARY WILL BE EMAILED TO THE ADDRESS PROVIDED**

Workshops will be assigned on a first-come, first-served basis.

Bring your own lunch or purchase Pinelands inspired food at our food court. Dunkin Donuts will be open.

**FINAL REGISTRATION DEADLINE March 9, 2020**

**Cancellation Policy: NO REFUNDS**

REGISTRATION STARTS AT 7:45 A.M.			
9:00 - 10:15	10:30 - 11:45	1:00 - 2:15	2:30 - 3:45
Pinelands Weather and Climate	Pinelands Weather and Climate	Sustaining Water Supplies	African Americans Atlantic City
Preparing for Climate Change	Combating Climate Change	Native or Alien	Fungi and Lichens
Four Seasons at Forsythe	New Jersey Pinelands	South Jersey's Rivers	Four Seasons at Forsythe
A Tale of Two Cedars	A Tale of Two Cedars	Pine Barrens' Microclimate	Through Elizabeth's Eyes
Blueberries and Cranberries	The Pinelands Water Cycle	Fire and Insects	Fire and Insects
Underwater History	Ticks and Lyme Disease	Ticks and Lyme Disease	Paddling and Camping Wharton
Frogs and Toads	Rare Snakes	Game of Cones	Ecological Forestry
Purple Pitcher Plant	Landscaping for Butterflies	Plants of the Pinelands	Purple Pitcher Plant
A Pinelands Road Trip	What's in a Name?	Cedar Bridge Tavern	Cedar Bridge Tavern
Serendipity	Climate Change and Amphibians	Moths of the Region	Moths of the Region
Batona Trail	His Majesty's Nuisance	A Tale of Two Pine Barrens	Batona Trail
			Denizen Pine
Ghosts of the Wading River		Ghosts of the Wading River	
Forsythe Wildlife Drive		Campus Nature Walk	
Roadway Initiative		Stockton Forest Management	
Fire Ecology of the Pine Barrens			
<b>11:45 - 12:45 • Lunch</b> <b>3:45 - 4:30   Coffee and Cake with Denizen Pine</b> (Seating is limited - Register with the rest of your classes)			

For questions about accessibility or to request an accommodation, please contact the Office of Event Services and Campus Center Operations at 609.652.4878 or event.services@stockton.edu at least 5 business days in advance of your participation or visit.

CLIP & RETURN ..... CLIP & RETURN

**2020 PINELANDS SHORT COURSE REGISTRATION FORM**

**SATURDAY, MARCH 14 • STOCKTON UNIVERSITY**

Register ONE PERSON per form, copy the form for additional registrants.

NAME \_\_\_\_\_ DATE OF BIRTH \_\_\_\_\_

STREET ADDRESS \_\_\_\_\_ CITY, STATE, ZIP \_\_\_\_\_

PHONE \_\_\_\_\_ E-MAIL ADDRESS \_\_\_\_\_

Enclose check, money order, or purchase order payable to Stockton University

	9:00 a.m. to 10:15 a.m.	10:30 a.m. to 11:45 a.m.	1:00 p.m. to 2:15 p.m.	2:30 p.m. to 3:45 p.m.
<b>1<sup>ST</sup> CHOICE</b>				
<b>2<sup>ND</sup> CHOICE</b>				
<b>3<sup>RD</sup> CHOICE</b>				

If you want to attend the same courses as someone, write their name(s) below. We will do our best to accommodate your request.  _____ _____	Coffee and Cake 3:45 – 4:30 p.m.  <input type="checkbox"/> Yes Included with your registration fee. Must pre-register, limited seating	REGISTRATION FEE: CHECK ONE  <input type="checkbox"/> Adult \$50 <input type="checkbox"/> Senior (65+) \$45 <input type="checkbox"/> Student \$45
	<input type="checkbox"/> Check box to receive a Professional Development Certificate	

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**STOCKTON UNIVERSITY**

## ECOSYSTEM/CLIMATE IMPACTS & SUSTAINABILITY

**PINELANDS WEATHER AND CLIMATE: PAST, PRESENT & FUTURE**  
**Dr. David A. Robinson, New Jersey State Climatologist**

This presentation will focus on the weather and climate of the Pinelands, exploring events and issues on short to long term scales. It will bring the issue of global climate variability and change home to New Jersey, answering questions about where we may be headed. Our capabilities to monitor New Jersey’s weather and climate will also be discussed.

**NEW! THE PINE BARRENS’ UNIQUE WEATHER AND HOW IT AFFECTS THE MICROCLIMATE IN THE MOST DENSELY POPULATED STATE**

**James A. Eberwine, retired Meteorologist, National Weather Service**

Whether you are looking for very hot or very cold temperatures, you will find them in the Pine Barrens. If you are looking for a tremendous moisture source to enhance thunderstorm activity, you will find it in the Pine Barrens. This course will cover the Pine Barrens’ weather and its impact on New Jersey’s micro-climate.

**NEW! SUSTAINING WATER SUPPLIES FOR THE FUTURE**  
**Emma Melvin, Delaware Bayshore Program Director, American Littoral Society**

As we face a changing climate, a sustainable water supply will become a larger issue in South Jersey. The New Jersey Department of Environmental Protection has predicted that many watersheds in South Jersey will be in a water deficit within a few years. With changes in storm timing and frequency due to climate change, water supplies may be stressed even further. Smart, sustainable water uses in the home, commercially and on the farm will recharge our aquifer and support a sustainable water future.

**NEW! CLIMATE CHANGE AND THE PINELANDS WATER CYCLE**  
**Steven Yergeau, County Agent/Assistant Professor, Rutgers Cooperative Extension of Ocean & Atlantic Counties**

Watersheds undergo changes due to development, landscaping management and increasing impervious cover that all impact the water cycle. Less water infiltrates the soil, more frequent floods happen and more polluted stormwater enters our rivers and lakes. Climate change will bring more precipitation and stormwater, making these problems worse. Yergeau will discuss the Pinelands watershed and the water cycle, as well as possible solutions that people can do daily.

**NEW! COMBATING CLIMATE CHANGE WITH A JERSEY-FRIENDLY YARD**

**Karen Walzer, Public Outreach Coordinator, Barnegat Bay Partnership and Becky Laboy, Education Outreach Specialist, Ocean County Soil Conservation District**

As climate change manifests across the planet, you may be experiencing gardening challenges in your own backyard. This program offers ways to mitigate the downpours, as well as the droughts, using the Jersey-Friendly Yards website, tools and resources. We'll show you how to select appropriate plants for your sandy soil, turn your yard into a sponge and provide habitat to support native wildlife. Save time, save money and save the planet with a Jersey-Friendly Yard!

**NEW! PREPARING FOR CLIMATE CHANGE THROUGH MUNICIPAL PARTICIPATION**

**Anne Heasley, Program Manager of Policy and Planning, Sustainable Jersey**

This course will delve into the impacts of climate change and provide details on how to use the Sustainable Jersey program to respond. Attendees will learn about the key actions that municipalities are taking to adapt and reduce the risks associated with a changing climate, including Heat Island Assessment, Extreme Temperature Event Planning, Climate Action Planning and Green Infrastructure. Participants will also learn about the steps municipalities are taking to reduce greenhouse gas emissions.

**NEW! SERENDIPITY: JOHN MCPHEE’S THE PINE BARRENS**

**John Volpa, Director of Education for Pinelands Adventures**  
Great writers influence others to do great things. John McPhee’s *The Pine Barrens* moved Governor Brendan Byrne to introduce legislation to preserve and protect the Pinelands. Volpa will focus upon each of McPhee’s nine chapters, which condensed a story about the land and its people, with wider implications for the nation and the environmental movement.

**THE NEW JERSEY PINELANDS: A PRECIOUS NATURAL RESOURCE**  
**William E. Dunscombe, Associate Professor of Biology, Union County College**

The presentation will examine the beauty and uniqueness of the Pinelands. Aesthetic, biological and historical aspects of the Pinelands will be explored through a series of slides that will introduce newcomers to this truly ecologically special area of New Jersey.

**THE HISTORY OF SOUTH JERSEY’S RIVERS**

**Dr. Claude Epstein, Professor Emeritus, Stockton University**  
South Jersey river landscapes were created by geological processes and land use history. The geologic history provided two kinds of rivers: one for the Delaware Valley and another for the Pine Barrens. European settlement replaced the Lenape and greatly altered the natural river landscapes with technological structures needed for agriculture and industry.

**UNDERWATER NATURAL HISTORY OF THE MULLICA VALLEY**  
**Kenneth W. Able, Professor Emeritus, Rutgers University Marine Field Station**

The presentation will provide an underwater view from intertidal marshes to deep channels, based on over 30 years of observations and research by personnel of the Rutgers University Marine Field Station. The presentation will also cover sampling with a variety of gear, acoustic imaging and aerial photography.

**A TALE OF TWO PINE BARRENS**

**John W. Pavacic, Executive Director, Central Pine Barrens Joint Planning and Policy Commission**

Attendees will learn about the Long Island Central Pine Barrens and how the region’s ecology and culture compare with the New Jersey Pine Barrens. The presenter will briefly discuss the formation of the Central Pine Barrens’ Joint Planning and Policy Commission and the passage of the Long Island Pine Barrens Protection Act, while focusing on the region’s vast and significant resources.

**THE BATONA TRAIL: THE PREMIER WALKING PATH OF THE PINELANDS**

**Rosemarie Mason and Diane Mason**

This presentation will provide a brief history of the Batona Trail, including a description of the access points and campgrounds located along the 52.7-mile trail. Attendees will learn how to reserve a camping site, while discovering easy loop hikes that incorporate the highlights on the Batona. The presenters will also discuss the items people should carry for a day or backpacking trip.

**NEW! PADDLING AND CAMPING AT WHARTON STATE FOREST**  
**Robert Bogan**

Attendees will learn how to get information, maps and shuttle services, as well as how to make reservations to camp and paddle the rivers and lakes in Wharton State Forest. Bogan will also touch on other similar places in the Pine Barrens, while emphasizing safety on the water and in parks. Lastly, the presenter will provide a “before-you-go” checklist of items to bring for overnight trips, while sharing humorous anecdotes and what he has learned from his mistakes.

### WILDLIFE

**WHAT DOES CLIMATE CHANGE MEAN FOR AMPHIBIANS IN NEW JERSEY?**

**Allegra Mitchell, Wildlife Biologist with the Conservation Wildlife Foundation of New Jersey**

Amphibians are typically referred to as “canaries in a coal mine” when it comes to environmental health. Their biology makes them uniquely susceptible to changes in thermal regimes and water availability. Amphibians in coastal areas, such as New Jersey, are also affected by increased salinity from sea level rise. The presenter will discuss some of the most pressing climate concerns for amphibians throughout the Garden State.

**A TALE OF TWO CEDARS**

**Terry O’Leary, Resource Interpretive Specialist**

This program will provide an in-depth investigation into two native tree species – Atlantic White Cedar and Eastern Red Cedar – while highlighting the similarities and differences between these conifers. Habitat requirements, growth patterns, ecological benefits, effects of fire and traditional forest products will be explored.

**BLUEBERRIES AND CRANBERRIES: THE LATEST RESEARCH ON THE HEALTHY BERRIES GROWN IN THE PINELANDS**

**Amy Howell, Ph.D., Research Scientist, Rutgers University**  
Howell has been studying the medicinal properties of these native berries for 27 years at Rutgers, and she will share results from exciting new studies that support the wide-ranging health benefits of these berries, from cranberries’ effects on the urinary tract infections, stomach ulcers and heart health, to blueberries’ abilities to promote a healthy brain.

**PLANTS OF THE PINELANDS**

**Marilyn Sobel, Ph.D., Research Scientist, New Jersey Pinelands Commission**

Attendees will learn about the ecology of rare and unusual plants of the New Jersey Pinelands, including orchids, carnivorous plants and locally restricted plants such as Knieskern’s beaksedge. Sobel will discuss potential threats to local populations and general habitat characteristics that are important elements of plant conservation.

**THE PURPLE PITCHER PLANT: A UNIQUE PLANT THAT PRODUCES PLANT FOOD FROM THE BUGS IT CAPTURES**

**Rick Prickett**

Learn about how easy it is to propagate these outdoor plants, and use them to engage children and others in the world of insect-eating plants and ecology. These acid-loving bog plants, found throughout New Jersey, but especially in the Pine Barrens, can become part of the landscape where you live.

**NEW! FUNGI AND LICHENS: “LICH-EN THE FUNGUS AMONG US”**  
**Jennifer Bulava, Naturalist, Burlington County Parks**

This course will provide an overview of the important roles that lichens and fungi play in the environment (not for identifying individual species). The three main types of fungi will be discussed, with a focus on mycorrhizal associations with plants. Attendees will discover the many ways that people and animals use lichens, while gaining a better appreciation of the beneficial and amazing relationships within the fungi kingdom.

**NEW! NATIVE OR ALIEN: PLANTS AND FUNGI**

**Jennifer Bulava, Naturalist, Burlington County Parks**

Exotic plants and fungal blights continue to wreak havoc on our environment. Find out how they got here, why they are so destructive and why we need to encourage native plants whenever possible. Learn how to identify the 20 most common invasive plants in South Jersey.

**NEW! GAME OF CONES**

**William Zipse, Supervising Forester, New Jersey Forest Service and Bernard Isaacson, Assitant Regional Forester**

“When a pine plays the game of cones, it wins, or it dies.” After learning the fundamentals of tree growth and identification, participants will use games to jump into the life of a tree to know just how a stand of trees grows. Think your tree’s growth strategy is powerful? Powerless? Find out in this interactive and lively program! The goals of the session are to teach participants the core language of forestry and increase comprehension of the constant changes in our wooded landscape.

**NEW! NOT YOUR GRANDPA’S FORESTRY: ECOLOGICAL FORESTRY**

**William Zipse, Supervising Forester, New Jersey Forest Service and Bernard Isaacson, Assitant Regional Forester**

When you have a hammer, not everything has to be a nail! Many folks associate the terms and tools of forestry with historical approaches to growing wood, but production forestry is but one method of land management. Instead, foresters responsible for managing your public forestland will show how the tools of forestry can be used with more flexibility and adaptability.

**NEW! FOUR SEASONS AT FORSYTHE**

**Susan Puder, Author, Photographer and President of the Southern Ocean Birding Group**

Course attendees will discover the 47,000-acre Forsythe National Wildlife Refuge, located along the Atlantic Flyway. Birds visit the refuge throughout the year to rest, feed and breed. Learn what you can find and when at New Jersey’s largest refuge in the Pinelands.

**PINELANDS FROGS AND TOADS**

**John Bunnell, Chief Scientist, New Jersey Pinelands Commission**

Bunnell will cover the distribution, reproduction, habitat preferences and vocalizations of the frog and toad species found in the largest stream system in the Pinelands: the Mullica River Basin.

**RARE SNAKES OF THE PINE BARRENS**

**John Bunnell, Chief Scientist, New Jersey Pinelands Commission**

Bunnell will highlight the rarer snake species of the Pine Barrens and focus on the natural history and ecology of the timber rattlesnake, the only venomous snake in the region.

**NEW! MOTHS OF THE ATLANTIC COASTAL PLAIN REGION**

**Ann-Marie Woods, Photographer, Naturalist and Amateur Lepidopterist**

From sugar sand to beach sand, moths are an integral part of habitats living in Pinelands oak-pine forests, the dwarf pine plains and bogs and along the Atlantic coastline, living in maritime forests, dunes and saltwater marshes. Woods will offer macro-photography, gathered data and insight to enlighten attendees about the nighttime world of moths in this ecologically diverse area.

**NEW! SUSTAINABLE LANDSCAPING FOR BUTTERFLIES**  
**Jesse Connor, Co-Leader, Southeast Chapter of the Native Plant Society of New Jersey**

The South Jersey area hosts more species of butterflies than most people realize (100+), but they need our help. Whether you are a student, renter or homeowner, you can help support these fascinating creatures through all stages of their life cycles – from eggs to adults. Learn which native trees, shrubs, perennials and vines are best for them, and which butterfly species you can attract and support in your own yard.

<p><b>HOW TO REGISTER ONLINE:</b></p> <p>Visit <a href="http://stockton.edu/pinelands">stockton.edu/pinelands</a>.</p> <p>Click the <b>register button</b> and follow the steps below:</p> <ol style="list-style-type: none"> <li>In the Search box choose Continuing Ed Jul’19-Jun’20 from the drop down box.</li> <li>Leave the second box empty, click on the magnifying glass.</li> <li>Hover the cursor over the course of your choice and click on the plus sign that will appear. <p><b>***You MUST choose the 31<sup>st</sup> Pinelands Short Course first***</b></p></li> <li>After making all of your selections, click on the register button found on the lower right hand side of the screen.</li> <li>Create a new account or sign in with your Stockton “Z” number and pin number.</li> <li>Add coupon code <b>SAVEPINE</b>, if applicable, on the lower left-hand side of the screen.</li> <li>Click Proceed to Payment on the lower right-hand side of the screen.</li> <li>Click Proceed to Payment on the lower right-hand side, again.</li> <li>Click Submit payment on the lower right-hand side.</li> <li>Follow prompts to make payment by credit card or check.</li> </ol> <p><b>*If you have already registered within the Stockton community for any Stockton event, start by entering your “Z” number and pin on the right side of the screen. Then follow the steps above, omitting step 5 which will not be an option.</b></p>
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### TICKS AND LYME DISEASE

**Alan Stearne, Biologist and Environmental Specialist**

This comprehensive program provides detailed information about ticks and Lyme disease, while displaying high-resolution microscopic images. Stearne will cover all the ticks associated with Lyme and other tick-borne diseases, providing facts and dispelling myths about the diseases. He will also discuss the safe and proper way to remove a tick.

**FIRE AND INSECTS**

**Stephen Mason, Ph.D. Candidate, Drexel University**

Temperatures are increasing throughout the world, resulting in more intense and frequent wildfires. Because insects are the most biodiverse organism in the world, and humans could literally not survive without them, they make the most ideal group to study after a fire. Attendees will learn how different insects respond to different aspects of fires, such as seasonality and severity, and prescribed versus wildfires.

### HISTORY/CULTURE

**NEW! THE INDISPENSIBLE ROLE OF AFRICAN AMERICANS IN THE CREATION OF ATLANTIC CITY**

**Nelson Johnson, Author**

Johnson is the author of *Boardwalk Empire: The Birth, High Times and Corruption of Atlantic City* and its sequel, *The Northside: African Americans and the Creation of Atlantic City*. From 1880-1930, 95% of the restort’s workforce was African American. Johnson’s presentation will explain the significant role of the black workforce in building, maintaining and managing the economy of “old” Atlantic City, and how/why Atlantic City’s current urban problems are a microcosm of urban America.

**NEW! WHAT’S IN A NAME?**

**Andrew Anderson, New Jersey State Park Service**

The cold, clear waters of Cedar Creek once provided raw material and power for two Pinelands industries at the uniquely named hamlet of Double Trouble. Utilizing colonial era survey maps, historic pictures and the “What’s in a Name? Names from Nature” section of the Barnegat Bay Environmental Educators Steering Committee’s Discovering Bargnegat Bay guide, we’ll see how names of waterways and land in the Barnegat Bay Watershed give perspective to how settlers viewed and utilized the resources of this area.

**NEW! A PINELANDS ROAD TRIP**

**Andrew Anderson, New Jersey State Park Service**

Do you want to visit the Pinelands National Reserve, but you’re too afraid you might get lost or stuck down a sandy trail? There are numerous historic sites, lost towns, nature centers and monuments you can still visit – entirely by a paved road. Join us for a virtual tour as we enjoy slides and stories of places you can easily visit yourself.

## Directions to Stockton University Galloway, New Jersey

### From the North

Travel south on the Garden State Parkway to Exit 44. Take Exit 44. At the stop sign at the end of the ramp, turn right onto S. Pomona Road (County Road 575). Travel ½ mile. At the entrance sign for Stockton University, turn left onto Vera King Farris Drive. For campus parking, continue ½ mile on Vera King Farris Drive, parking is available on the right.

### From the West

Travel east on the Atlantic City Expressway to Exit 12. Take Exit 12. At the stop sign at the end of the ramp, turn left onto Wrangleboro Road (County Road 575). Proceed straight through the traffic lights at Tilton Road (County Road 563) and White Horse Pike (Route 30). At the next traffic light, W. Jimmie Leeds Road, turn right. Travel 1 mile on W. Jimmie Leeds Road to the entrance sign for Stockton University on the left, turn left onto Vera King Farris Drive. For campus parking, continue about 1 ½ miles on Vera King Farris Drive, parking is available on the left.

### From the South

Travel north on the Garden State Parkway and take Exit 41. At the light at the end of the Exit 41 ramp, turn left onto W. Jimmie Leeds Road. Travel 1 mile to the entrance sign for Stockton University, turn right onto Vera King Farris Drive. For campus parking, continue 1½ miles; parking is available on the left

### GHOSTS OF THE WADING RIVER

**Jeff Larson, Pinelands Adventures Guide**

Participants will get a glimpse into what life was like along the Wading River in the Pine Barrens during the 1800s. In this three-hour excursion, participants will explore the ruins in and around the former town of Harrisville and surrounding areas. Bring cameras, dress warmly and be prepared to walk short distances. Bathroom facilities will be available in the form of a very primitive outhouse.

**NEW! ROADWAY ENVIRONMENTAL ADVANCEMENT INITIATIVE (READI)**

**Grethen Fowles, New Jersey Division of Fish and Wildlife, Endangered and Nongame Species Program; Shawn Carpenter, Engineering Project Manager, South Jersey Transportation Authority (SJTA); Nicholas Marchese, Operations Project Manager, SJTA; John McDonnell, Operations Project Manager, SJTA**

This field trip is based on the South Jersey Transportation Authority’s READI program, which encompasses animal and wildlife fencing along the Atlantic City Expressway, and is coordinated by the New Jersey Division of Fish and Wildlife. Participants will be driven from Stockton to see animal crossings on the westbound section of the Expressway and then taken to the Farley Service Area, where they will tour the Pinelands Interpretive Center and review information about the Pinelands and the READI program before seeing native plantings, including a hummingbird garden.

**ECOLOGICAL FOREST MANAGEMENT IN THE PINELANDS: THE STOCKTON FOREST MANAGEMENT PLAN**

**Matthew G. Olson, Associate Professor, Environmental Science Program, Stockton University**

In 2013, Stockton obtained approval for a 10-year comprehensive forest management plan for 1,500 forested acres of its campus. The plan seeks to meet multiple objectives, and serve as a model for education and research into sustainable forestry practices. Using adaptive forest management and silvicultural techniques that rely on scientific research of natural processes and disturbances in forests, the plan will increase the biodiversity and resilience of the forest where the university is embedded. Participants will see a presentation that will provide a plan overview, then tour some of the first silvicultural treatments and ecological experiments started in the Stockton campus forests. Be prepared for a walk!

### MUSIC

**DENIZEN PINE: LOCAL INSTRUMENTAL MUSIC TRIO PERFORMING ORIGINAL WORKS**

Denizen Pine, an instrumental music trio with roots in the Pinelands, will perform original and interpretive works. Several pieces have themes directly taken from, or inspired by, the history, ecology and folklore of the region.