



Falconer Natural History 2019 Spring Lecture Series



Sponsored by the
Atmospheric Sciences Research Center at the University at Albany

You are cordially invited to attend a series of free public lectures presented on TUESDAY EVENINGS at 8:00 p.m. in the Sullivan Auditorium, CESTM Building, University at Albany, 251 Fuller Road, Albany, NY

March 19 (Last Day of Winter!): Jesse Aronstein, Ph.D. “Electric Flight: 1883 to 2050.

Where are we now? Where are we headed?” Practical electric-powered airplanes have arrived! The technology underlying modern hybrid and all-electric automobiles is being applied to airplanes. Have you any idea how many distinct airplanes are already flying with electric power, what performance they have achieved, and how many companies are involved in developing new ones? The electric powered aircraft fleet is expanding rapidly, as is the performance envelope. At least one is already certified and in production. If industry projections are right, you will be flying electric on short regional flights by 2030. Come see what’s new in electric flight.

March 26: Dave Renne, President of the International Solar Energy Society. “Can the World Obtain All its Energy From Renewable Sources?”

As the costs of renewable energy technologies drop and the performance of these technologies continues to improve, the question arises as to whether the world could ultimately be powered by 100% renewable energy. The issue of climate change is certainly one of the major arguments for totally decarbonizing our energy system. This talk will focus specifically on the status of global trends in renewable energy development, and future prospects, given that more and more countries, cities, and regions are now establishing aggressive renewable energy targets. Examples of where the ultimate goal of 100% Renewable Energy is already, or close to being, attained will be presented. In the end, we will see that political will is the ultimate driver for achieving 100% renewable energy supply worldwide.

April 2: John Mishanec, Retired Vegetable Specialist, Cornell University.

“The Noble Potato.” Potatoes??? What could be more boring? (Think “couch potato.”) Actually, potatoes and their history are much more fascinating than people know. Genetic monoculture (cloning) led to the Irish potato famine. There are hundreds of different varieties (red, purple, yellow and white flesh). Good chefs can do cool things with potatoes. Hopefully, you will come away from this presentation with a better appreciation and understanding of potatoes and how to use them.

April 9: Paul Casson (Operations Manager) & Richard Brandt (Science Manager), ASRC Whiteface Mountain Field Station. “A summary of Ongoing Research and Environmental Monitoring at Whiteface Mountain.”

Against the backdrop of the stunning beauty afforded by this iconic Adirondack peak, a globally significant record of the physical and chemical composition of the atmosphere is being recorded. The long-term stability of land use afforded by the Adirondack Park designation allows for the operation of a ground-based probe of the atmosphere unparalleled in the northeastern United States.

April 16: Valarie Rapson, Chief Astronomer, Dudley Observatory, Schenectady MiSci.

“The Hunt for Earth-Like Exoplanets.” Astronomers from around the world are actively searching for Earth-like planets orbiting stars outside of our solar system. To date, over 3800 exoplanets have been discovered, with 40 or more having the possibility of supporting life. This talk will explore how astronomers discover new exoplanets and discuss the properties of those planets most suitable for life. We’ll also discuss the new TESS mission, which is expected to identify thousands of new exoplanets over the next five years. How close are we to finding E.T.’s home planet?

April 23: Charles T. Driscoll, Professor of Civil & Environmental Engineering, Syracuse University. “Mercury Contamination and Remediation of Onondaga Lake NY.”

Since at least the 1970s, mercury concentrations in fish from Onondaga Lake near Syracuse have been elevated as a result of a long history of contamination by local municipal and industrial activities, including two mercury cell chlor-alkali plants. Since 2004, the lake has experienced improvements in water quality, including reductions in concentrations of phosphorus, ammonia and chlorophyll, resulting in increases in dissolved oxygen and water column transparency. Remediation has also controlled mercury and other contaminants to protect human health and the lake ecosystem. Dredging and capping of nearshore sediments was conducted to decrease toxicity to benthic macroinvertebrates from a variety of contaminants, including polycyclic aromatic hydrocarbons, polychlorinated biphenyls, and mercury. Nitrate is injected to reduce mercury releases from deepwater sediments into the overlying water. Natural recovery of deepwater sediments occurs as cleaner sediments from tributaries settle out of the water column. These combined remedial activities have decreased concentrations of bioaccumulative contaminants, such as mercury, that pose risks to wildlife and humans who consume fish.

Tax-deductible donations to sustain the Natural History Lectures may be made out to the “University at Albany Foundation” and mailed to the University at Albany Foundation UAB-201, 1400 Washington Avenue, Albany, NY 12222. Address donations “Attention: Ray Falconer Fund”