

Workshop: Quantum Effects in Nature

In this workshop we will explore the macro and quantum effects of electrons and conductive and insulative materials and work.

Workshop: Electricity **Physical**

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Wind, Data, Interns, and Power In the City

My collaboration with my 17 year old intern studying the data & impact of bus traffic on wind turbines in the city.

Power Heat and Water Even in

the Winter

Even in the dead of winter at -20C the systems at Mezzacello work great! I am pretty pleased with this update.

Mezzacello in Winter – Animals, Power, and Water

A quick update on power and livestock systems to keep liquid water on hand in winter. I will update this.

The Data Revolution at Mezzacello

Over COVID 2019 2020 2021 and now 2022 I have been building a machine for life and data. The “key” was power!

Mezzacello Energy Farm and Bioreactor Project

The next phase of Mezzacello will include the energy farm and the 3D Printing Infrastructure.

Energy Gardens For The Future of Food

After years of providing power to the garden this was the year that the garden began providing power back as a “crop”.

Gardens of Solar Power and Sustainable Ecosystems

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Mezzacello took a major step into the future this summer installing solar power systems with the help and guidance of the [Ohio Farm Bureau Foundation](#), the [PAST Foundation](#) and Amazon. From the point of [inception in 2015](#) to the present all of the power needs of the systems at Mezzacello have come from the home. This meant extension cords and municipal power run through to power everything. The writing is on the wall; To be carbon neutral, replicable, and sustainable Mezzacello needed to be energy-neutral. This was only achievable through a grant and some elbow grease.



1200 Watts of power installed and tied into an off-grid system housed within the livestock and storage sheds.

I refer to these as “Gardens” because like everything at Mezzacello they have to be planned, maintained, sustained and harvested. I have tried to carefully and thoughtfully integrate them into the surrounding ecosystems. This will be power for all of the robotics systems, cameras, sensors, pumps, and heaters – all of it will come directly from renewable sources. This is a necessity and a luxury.

During the summer when I was running the #UrbanAgTech Summer Camps here at Mezzacello, we lost power with AEP due to a transformer pole accident. Not a big deal, except that after 12 hours of no water from the pumps, no air in the ponds, no filtration, and no heat on vulnerable chicks from heat lamps, power became a very big deal. So we had to buy a generator. Then we built and grew an energy garden.

It is our belief here at Mezzacello that energy and food will

soon become inextricable resources. We need to be better stewards of the environment so that we can maintain fresh food and water resources. The more we continue to ignore our ecological situation the worse it will get. Plants will STILL grow, but the atmosphere and more importantly the climate will not be able to support the plants we count on to live. Plants will adapt, but there is no guarantee they will serve as a reliable food source.

So I am growing power to grow the systems to support the ecosystems at Mezzacello. And thanks to the gracious help from the Ohio Farm Bureau Foundation, I can help others build the same into their gardens. For a brighter, more energetic and effective future.

Lesson: Magnetism 101

Students will learn the mystery of magnetism. From the quantum to the electro-mechanical students will explore all types of magnets.