

Southern Adventist University (SAU) had been experiencing indoor air quality (IAQ) issues specifically related to mold in their student housing and microbiology lab.

SAU is a private university founded in 1892 in Collegedale, TN. They are located on a 1,300-acre campus and operate over 30 facilities with a student population of approximately 3000.



The Case Study

The University was utilizing GPS Air technology in a limited capacity since 2015. To address the additional IAQ challenges uncovered in 2020, SAU evaluated multiple active IAQ technologies for a larger scale deployment.

SAU used a 3rd party IAQ testing lab to evaluate and benchmark several locations in their student housing complex to evaluate the different technologies. They collected air samples between June 11 and June 24, comparing GPS Air soft ionization technology to UV-PCO technology. The rooms tested were isolated for the entire testing period.

The testing included before and after measurements of particles, MVOCs, and mold spores.

- UV PCO was tested in Dogwood 2 and GPS' NPBI was tested in Dogwood 7 and Thatcher.
- Dogwood 2 and Dogwood 7 were identical spaces.
- Both spaces were unoccupied during entire test.

Product Comparison Results of NPBI and UV-PCO

	Date		Particles Size in Microns						Total Particles	MVOC	Airborne Fungi
			0.3	0.5	1.0	2.5	5.0	10.0			
UV/PCO Dogwood 2 Kitchen/Den	11-Jun-20	Before	2,352	664	173	17	1	2	3,209	8	8,327
	24-Jun-20	After	1,809	409	46	5	0	1	2,270	13	6,567
		% Reduction	23.1	38.4	73.4	70.6	100	50.0	29.3	-62.5	21.1
NPBI Dogwood 7 Kitchen/Den	11-Jun-20	Before	3,587	998	225	36	5	2	4,853	14	1,610
	24-Jun-20	After	638	196	30	0	0	1	865	3	282
		% Reduction	82.2	80.4	86.7	100	100	50.0	82.2	78.6	82.5
NPBI Thatcher Kitchen/Den	11-Jun-20	Before	5,983	1,883	337	64	6	4	8,277	10	18,060
	24-Jun-20	After	971	132	48	10	0	2	1,163	6	270
		% Reduction	83.8	93.0	85.8	84.4	100	50.0	95.6	95.6	95.6

The Conclusion

Particle count reduction of over 80% across all particle sizes while using NPBI.

MVOC reduction of 40 - 78% while using NPBI.

Airborne fungi reduction of 82.5 - 98.5% while using NPBI.

SAU elected to implement GPS Air soft ionization technology campus wide. According to Marty Hamilton, Associate VP of Financial Administration, "the results were astounding." Mr. Hamilton also commented that a microbiology professor was "amazed that Petri dishes used for experiments had a contamination rate of approximately 60% prior to GPS Air being installed and afterwards, the contamination rate was less than 2%, allowing more students to participate in labs."

To learn more about SAU's experience visit: [SAU- Marty Hamilton](#)