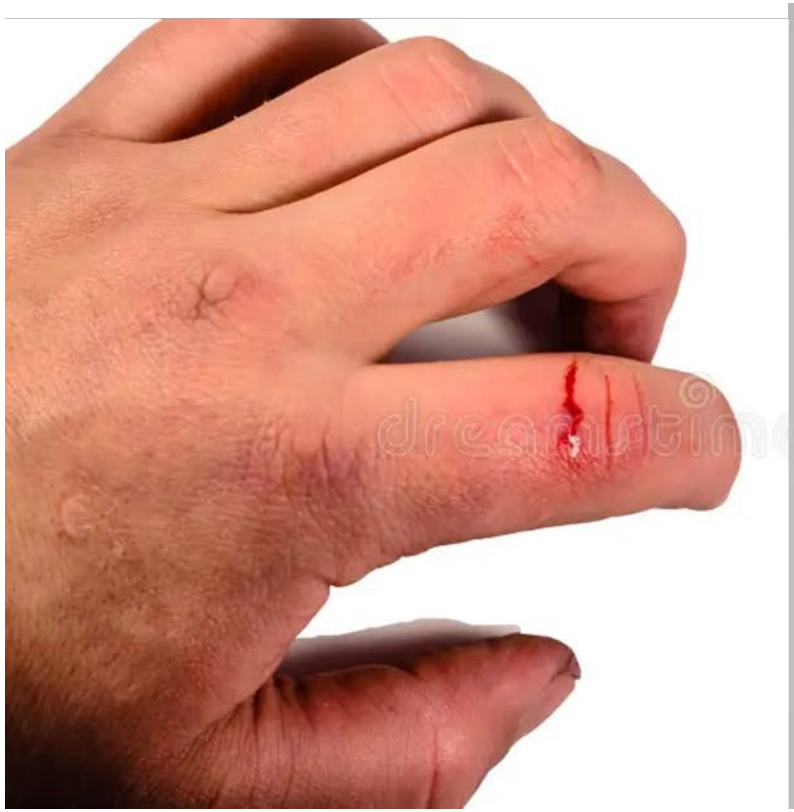
Ten Years of Optimal Mitigation Training: Lessons Learned and Blood Shed

Bruce Snead
Joshua Kerber
Chad Robinson



Or Who is Foolish Enough to Bleed with Snead?.....*Chosh and Jhad*





Optimal Mitigation and Advanced Diagnostics History and Results

Joshua Kerber, Chad Robinson, Bruce Snead

Oct 26, 2025

This was BTC Training Given at the Last Symposium

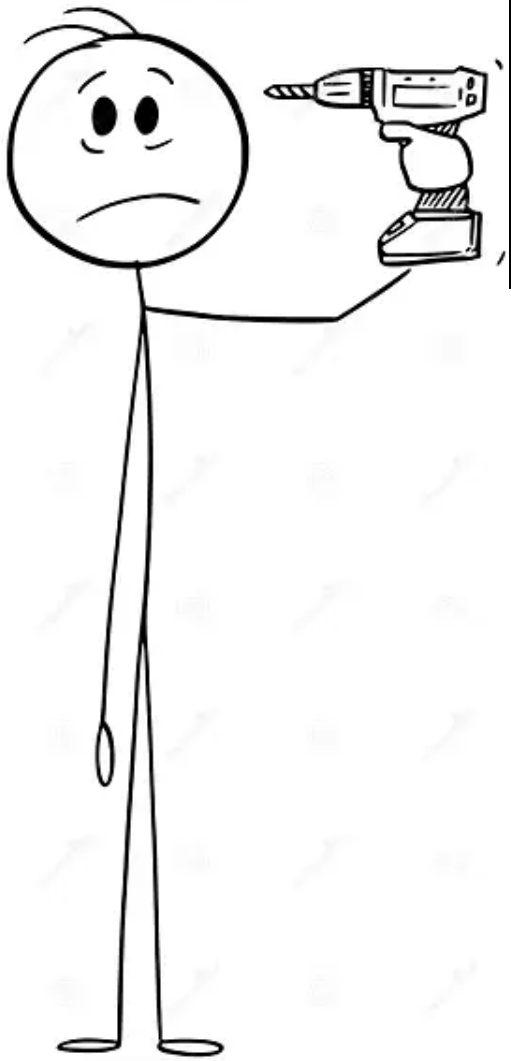


Purpose

- The purpose of OMAD :
  - to improve the technical diagnostic abilities of certified radon mitigation professionals needed to successfully design and install optimal systems.
  - to help radon mitigation professionals develop and strengthen diagnostic techniques as well as build confidence to overcome barriers for successful radon reduction.

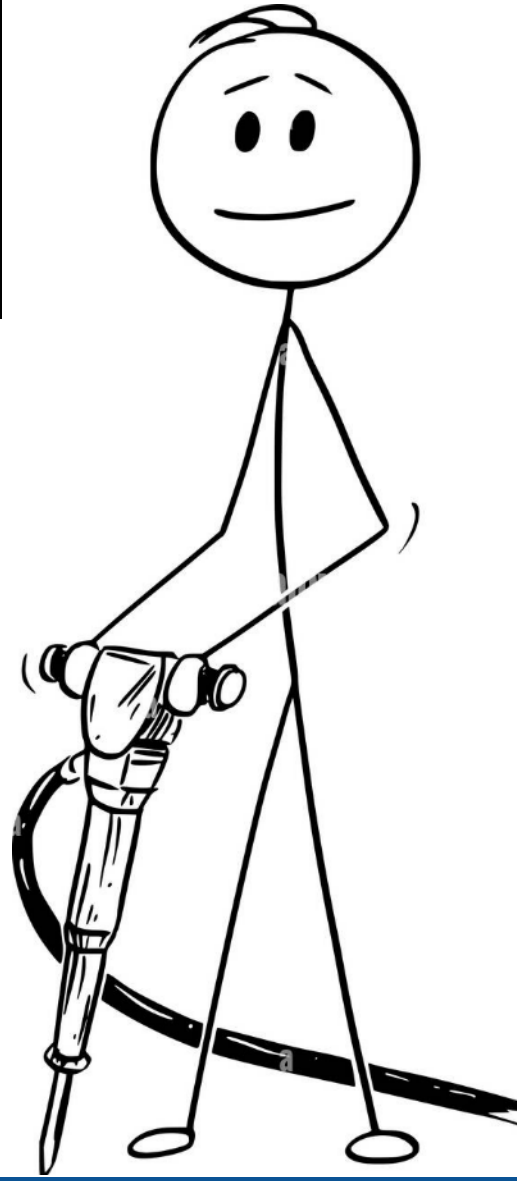
Background – Why OMAD Was Developed

- Some of the issues include:
  - Lack of adequate diagnostics taught and practiced to determine:
    - Required strength and extent of (PFE)
    - Required vacuum and airflow for single and multi-point suction point systems
    - Proper suction point design
    - Optimal pipe routing options
  - Failure to complete thorough sealing
- Raise the Bar
  - Improve quality of installations and reputation of industry



Poke & Hope





How “Big” a Fan Do I Need?

- Is this the right question?



Diagnostics Failures of Radon Mitigators

1. Qualitative diagnostics being done during different times of year showing “good draw” in summer and then nothing in the heating months.
2. Installers not being ready or able to identify air leaks in the systems.
3. Diagnostics not being conducted – typical poke and hopers
4. Diagnostics being done with no care of health and safety
5. Limiting diagnostics to just one suction point and one or two diagnostic test holes.

Diagnostics Failures of Radon Mitigators

6. Conducting PFE with a shop vac through ½” holes (suction point size).
7. “Puzzling” locations for suction points and PFE locations
8. Ignoring perfectly accessible crawlspaces.
9. Taking PFE numbers but not understanding how they relate to each other.
10. Not knowing the difference between pressure and airflow.
11. Doing PFE and identifying where it’s weak, but not comfortable or confident in chasing the weak areas.
12. Lack of confidence in what the numbers are showing.

A Legacy of Curriculum Development!





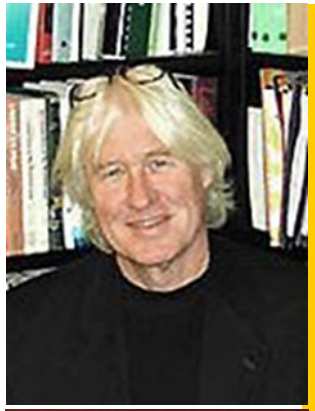






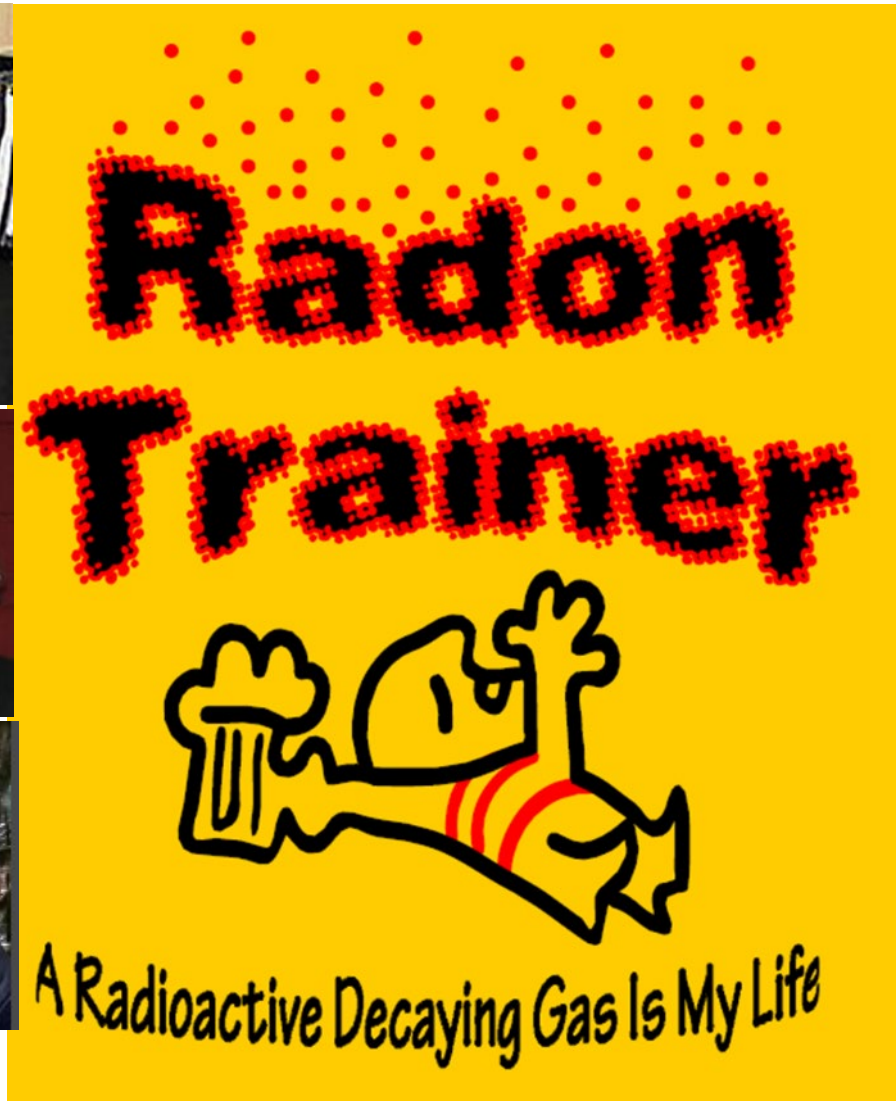
Radon Trainers… as if it can be trained!

- Jim Fitzgerald
- Jake Jacobson
- Bill Angell
- Richard Shaughnessy
- Laura Oatman
- Terry Brennan
- Jack Hughes
- Jack Bartholomew
- Harry Grafton
- Dan West
- Andy Kelley
- Matt Koch
- Bill Brodhead
- Jim Burkhart
- Ellen Majca
- Chad Robinson
- Joshua Kerber
- Brian Hanson
- Gary Hodgden
- Steve Albright





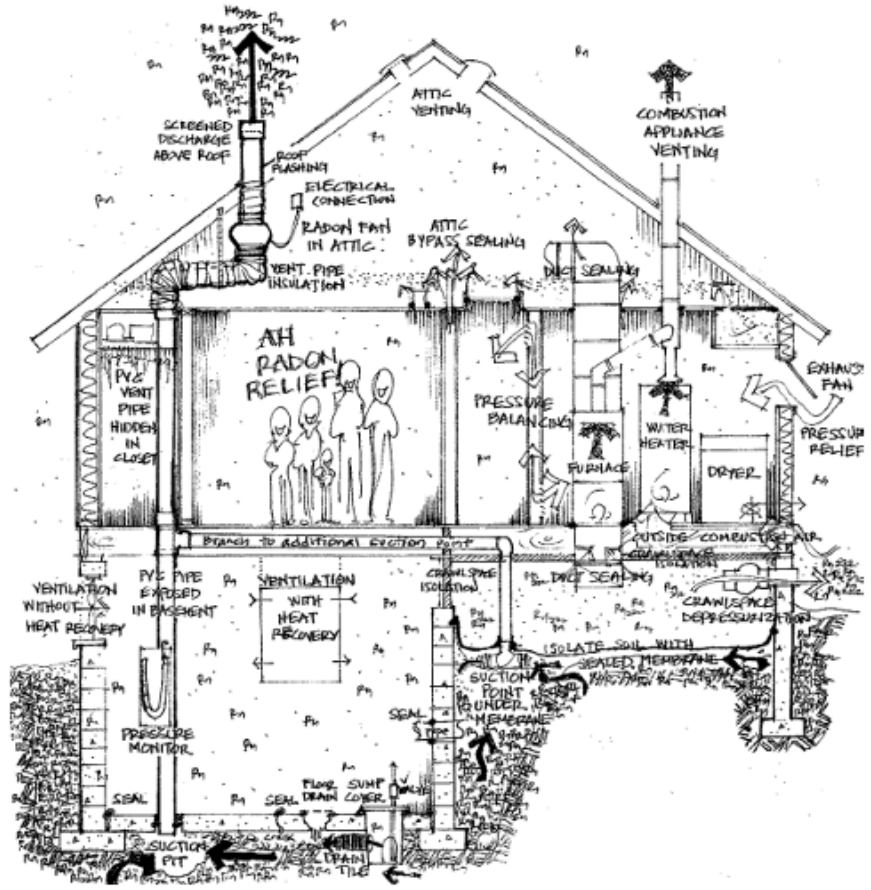




Early Efforts!



Hands-On Mitigation Course



William J. Angell
Jack Bartholomew, Jr
Dan West

Midwest Universities Radon Consortium

Two Great Jacks – Bartholomew and Hughes Diagnostic Pioneers!





Tribute T- shirt for them at Charleston



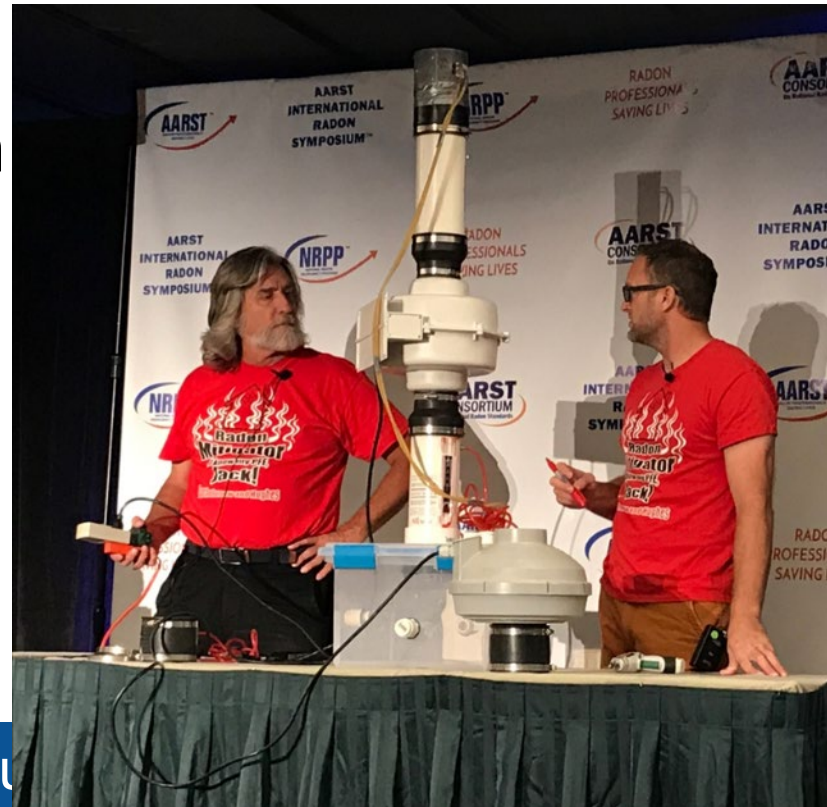


KANSAS STATE UNIVERSITY

Radon Programs

What's Your PFE, Jack!

Bruce Snead/Chad Robinson
MURC-KSU
Oct 2, 2018
AARST Symposium



INDOOR ENVIRONMENTS 2026
OCTOBER 4 – 7
NORFOLK
RADON AND VAPOR INTRUSION SYMPOSIUM

New CE Course

- NRPP Course ID#: MURC-211
- IL CE ID# RNTC2018-01
- C.E. Credits: 16 hours
- Location: Fantech Tech Center Lenexa, KS



Advanced Diagnostics and Optimal Mitigation Workshop

Became

Optimal **M**itigation and **A**dvanced **D**iagnostics Workshop

Locations and Support from Industry, States, and Tribes

- St Paul, MN – multiple times
- Lenexa, KS – multiple times
- Haverhill, MA
- Denver, CO – multiple times
- Springfield, IL
- Chicago, IL
- Columbus, OH
- Symposiums/BTC – one day and half day – multiple times
- Tribal Air Forum – multiple times

Course Goal

- The goal of this course is to elevate the understanding and skills of certified and/or licensed radon mitigation professionals
  - From basic understanding and application . . .
  - . . . to analysis, evaluation and creation of radon control in a cross-section of houses, . . .
    - . . . especially those that are “difficult to mitigate”
- To achieve this goal, participants need to be motivated and active learners of willing to challenge their current thinking and practice
- Because 30+ years of the same thinking is what got us here….

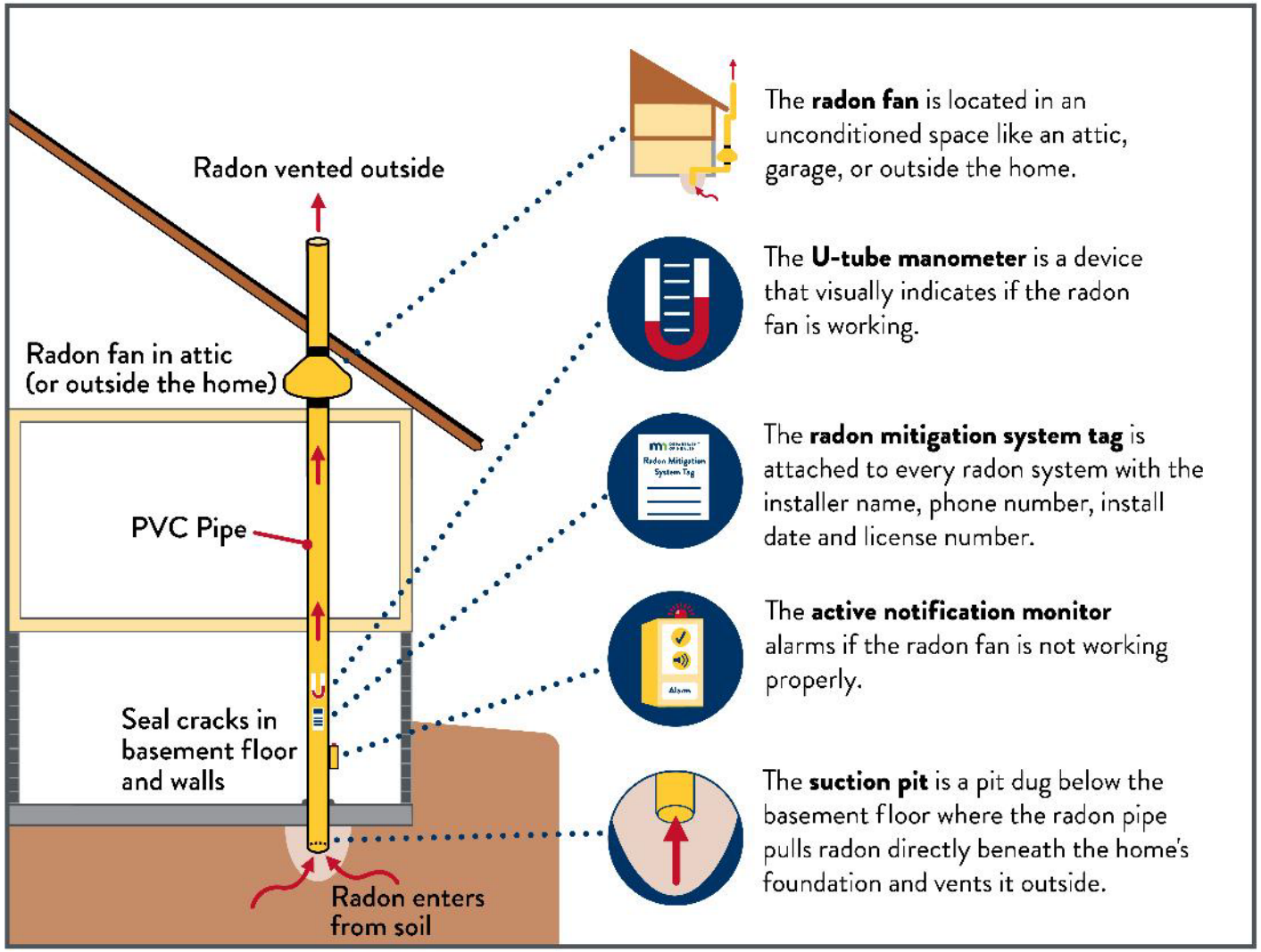
Some Before and After Questions for OMAD Participants - Mentimeter

- How would you characterize your soil conditions?
  - typically very permeable
  - typically very impermeable
  - all over the place
  - don't know
- What classification of fans do you use?
  - low pressure, low flow
  - medium pressure, medium flow
  - high pressure, low flow
  - high flow

More Questions for Participants

- Do you know the typical CFM range and sub-slab suction pressure of your systems?
  - If so, what are they?
- How do you select a fan for a particular system?
  - Carry 3-5 fans only
  - Whatever is on the truck
  - Footprint size
  - Number of suction points or foundation zones
- By the end of tomorrow, you will have better answers for all of these questions.

What Sets an Optimized Radon Mitigation System Apart?





Do an AI Search?

Best Products Reviews

Search

Categories

Online shoppin

10 Best Radon Mitigation System Kit Completes of 2026

Last Updated - September 8, 2026

Advertising Disclosure

Top5Best

Top 5 Best Radon Mitigation Fan Kit (Popular Now)

of September 2026

Optimal Mitigation

- What are the **characteristics of optimal mitigation?**
  - Radon reduction and
  - Energy efficient and
  - Low noise burden and
  - Low visual impact for the customer

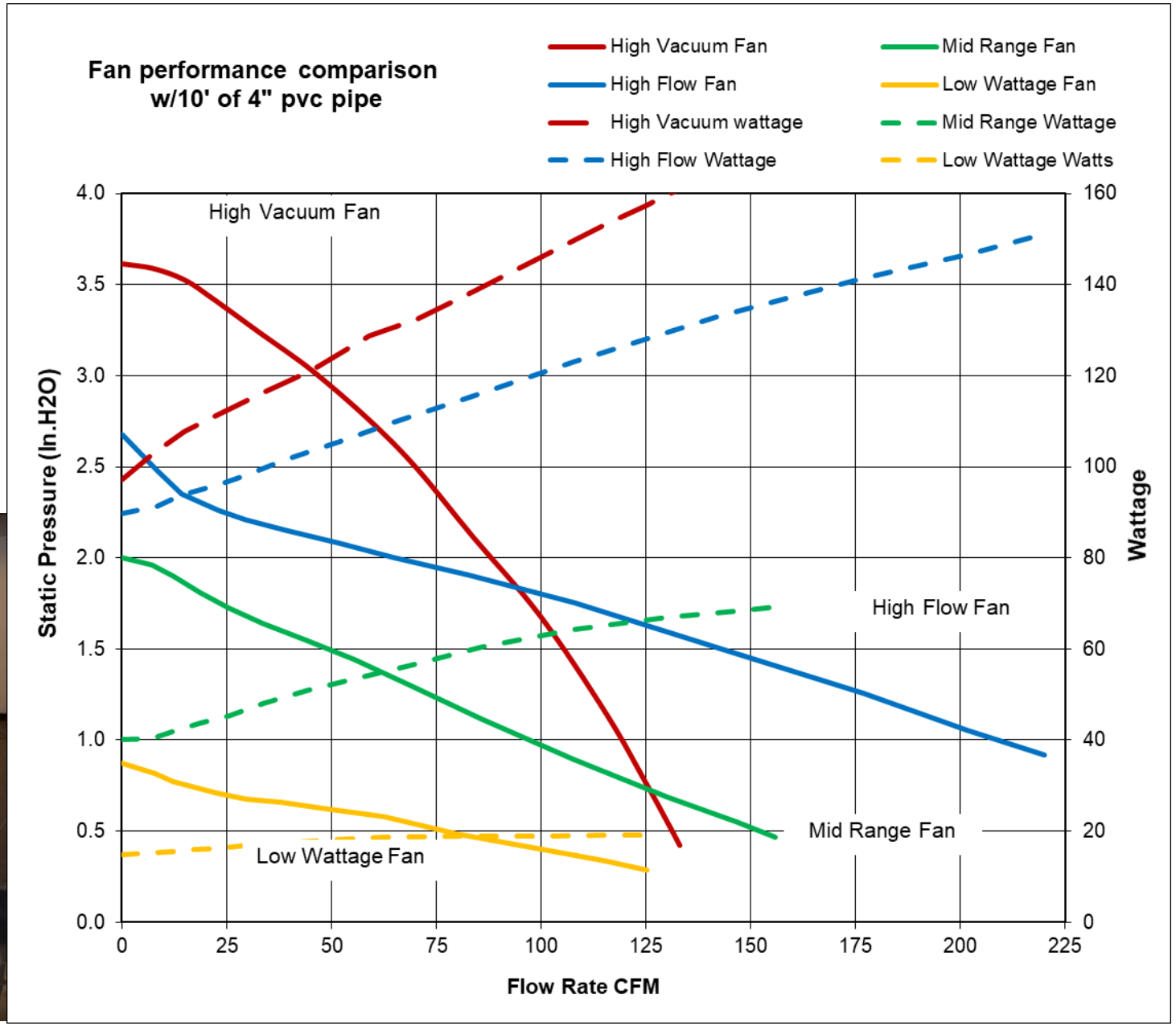
Lessons/Goals of Activity Stations

- **Fan Man and Fan Boxes** – The importance of measuring airflows and the ways it can be done, and key dimensions of fan performance and how to select the optimum fan for radon reduction, energy efficiency, and cost
- **Floor Panels for PFE** – The importance of establishing and measuring the strength and extent of PFE to achieve radon reductions and real world costs of decisions you make
- **Pipe Resistance** -The importance of understanding pipe size, airflow capacity, and determining pipe system resistance as part of fan selection

Key Concepts
Fan Curves

All Four Fan Types
Thanks Bill!







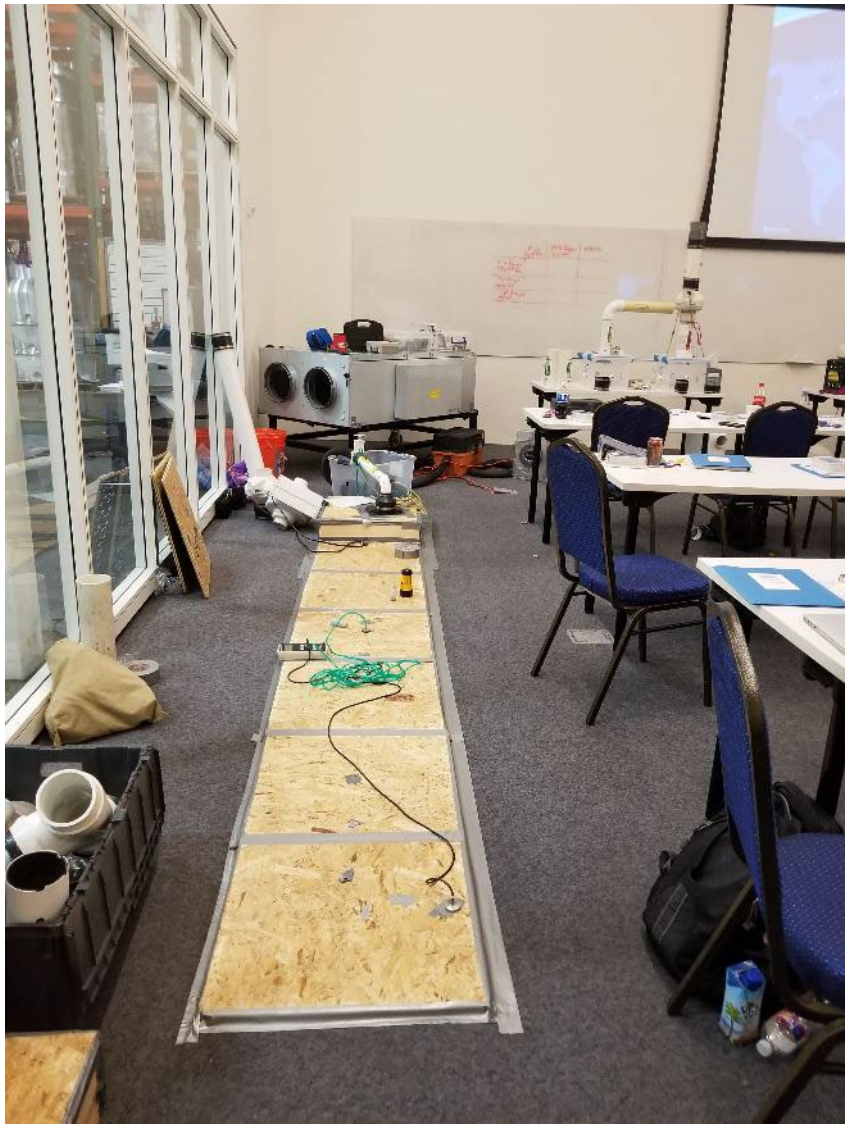


How Many CFM Does It Take To Get FAN MAN Up?

Fan Boxes and Fan Man Airflow

Presentations and Floor Panels





Lots of duct tape……





Lots of Simulations and Conversations





Lots of Case Studies……..



No more houses from heck for this guy!





Misadventures in Radon Mitigation

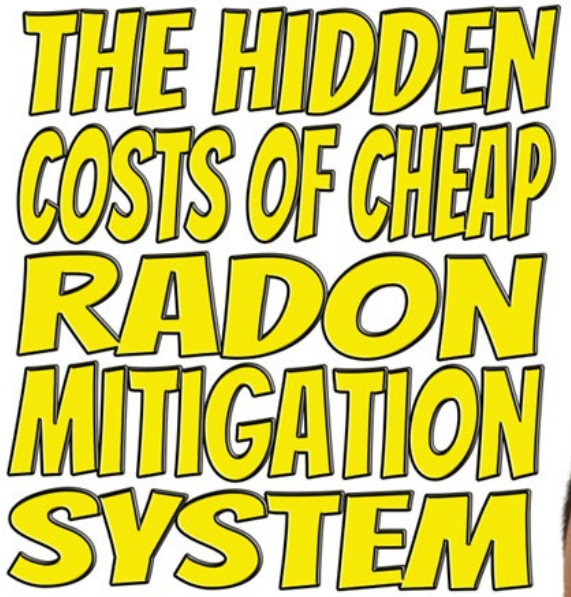
LOTS of Case Studies

DEPARTMENT OF HEALTH

Responsible Mitigation Practices

Joshua Kerber | Research Scientist
11/9/2020 – AARST International Radon Symposium

PROTECTING, MAINTAINING AND IMPROVING THE HEALTH OF ALL MINNESOTANS



STRUCTURE TECH TALK
a home inspection podcast



HOUSES FROM HECK

Day 2

2020 International Radon Symposium

Graduates!!



What We Have Learned in 10 Years of OMAD

- Barriers to optimal mitigation
- Even the most experienced mitigators are set in their ways
- Increased knowledge to fix difficult buildings with more confidence
- Professionals saving clients money and using knowledge to market their companies
  - Hundreds to thousands of dollars in long-term operating costs
  - That’s meaningful savings for diapers and shoes
- Repeat victims
- Demand for even more technical content – OMAD 2.0

What We Have Learned in 10 Years of OMAD

- OMAD is Optimal Mitigation and BASIC Diagnostics for many participants
- Basic mitigation courses have not focused on diagnostic knowledge and process
- Exams did not require diagnostic concept knowledge

Other Highlights

- Help participants after the workshop
- House from Heck form
- Homeowner equipment loans
- Remote consultations
- Witness firsthand graduates improving

Advanced Diagnostics Endorsements

- “Super class! The information was fantastic. I got so much out of the slides and even more with the hands on demonstrations. I appreciate the fact the information was broken down and built into the big concepts.”
- “Great class. Great location. Fast but not too fast. Great explanation.”
- “The class was perfect and encouraged involvement and made me want to contribute. Thank you all very much!!!”
- “Definitely filled knowledge gaps I didn’t know I had”

Some Special Events…….

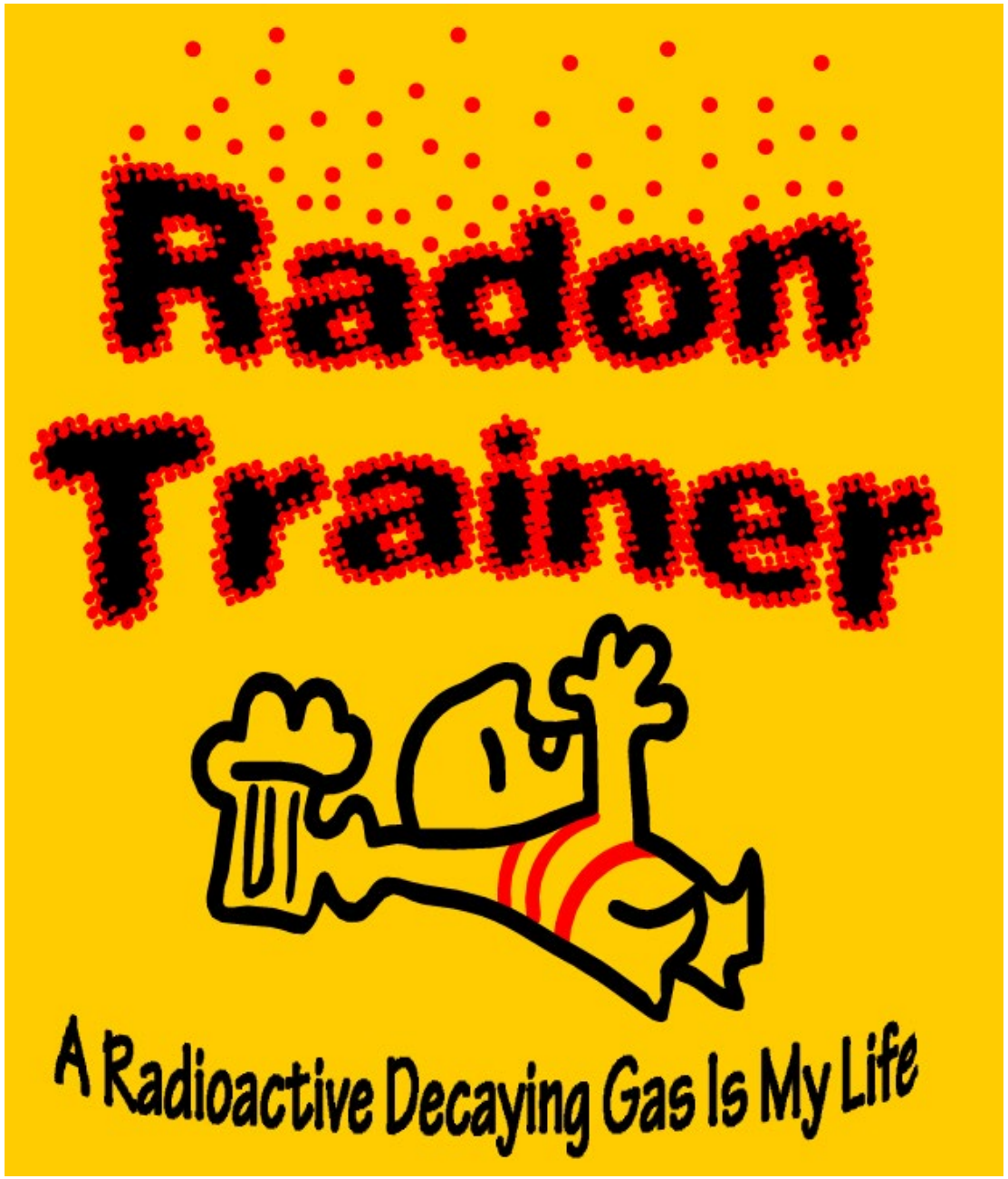
I turned 72 on June 7th 2023 at our OMAD Course in Lenexa with this cast of true believers…..and even made it to the class the next day



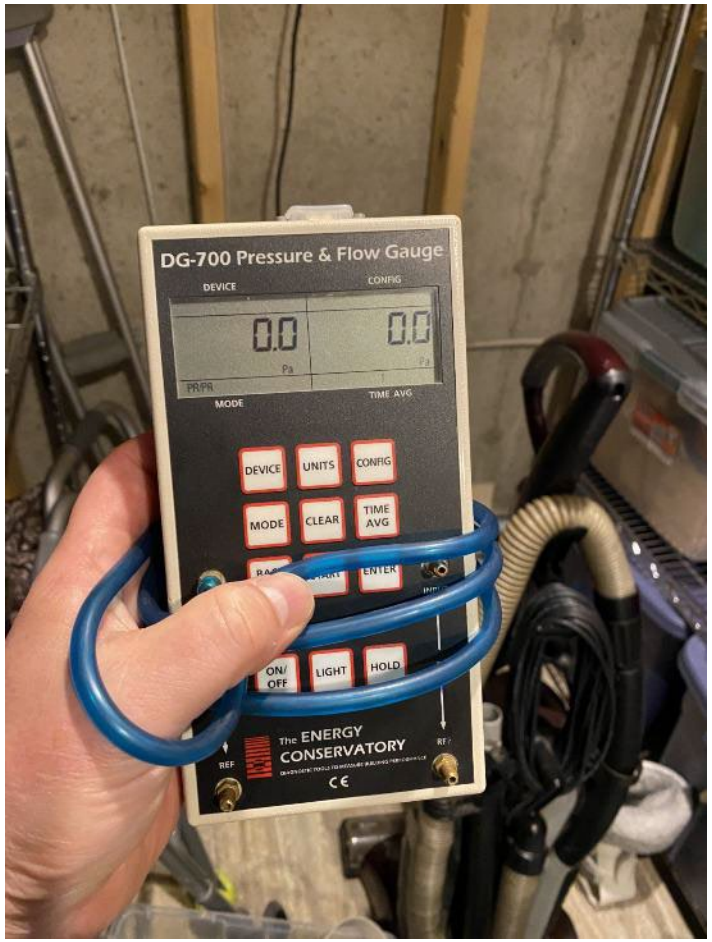


“I am in surgery”……

- I read this text from Josh on the way to the Columbus course and thought “ How are we gonna do this class without Josh”……
- Turns out he was “operating” on the busted fan boxes with duct tape



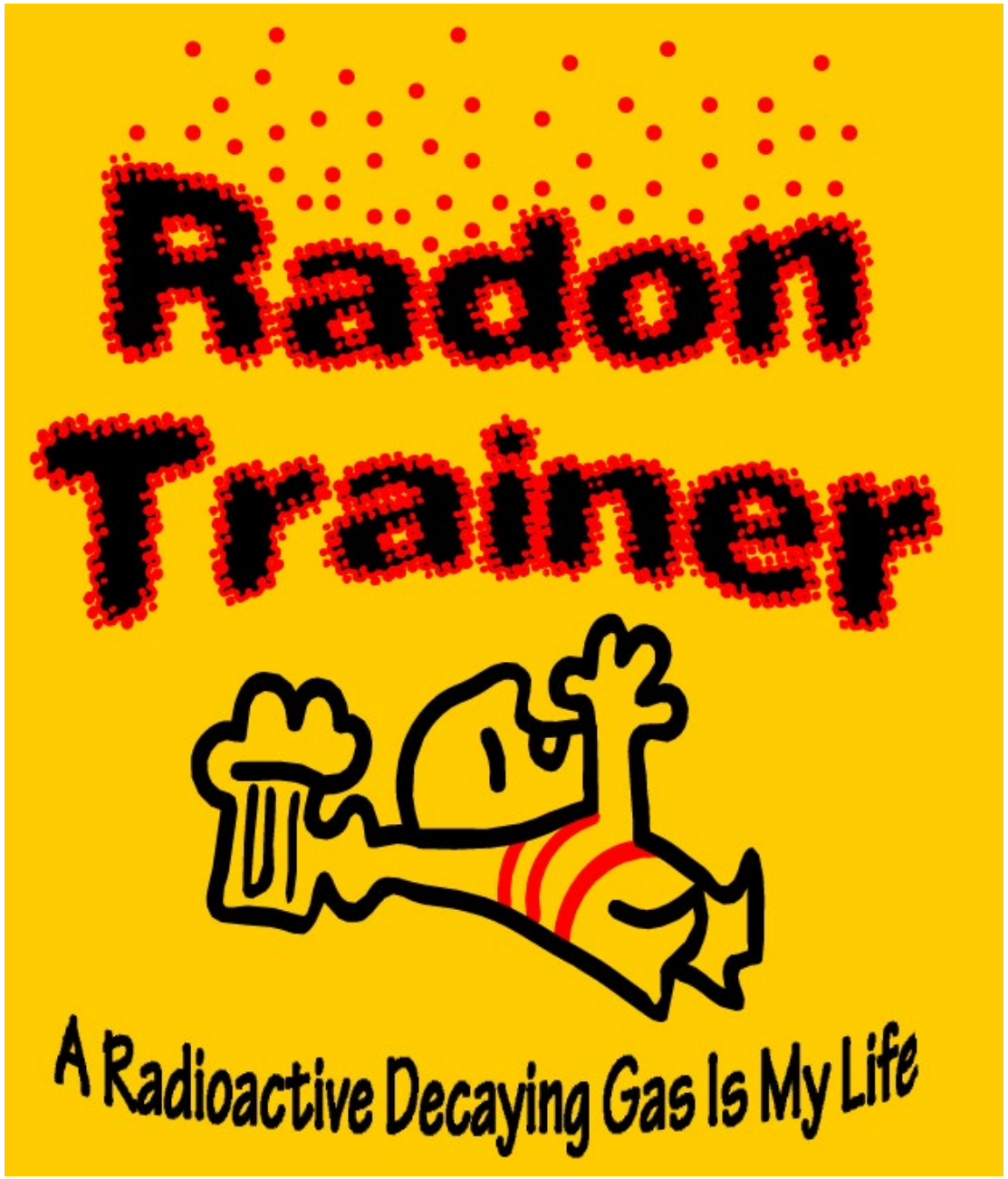
What's the Pressure Difference Between Inside and Outside?





“I broke my leg…….

- This was the voicemail from Josh on my phone the day before our course at Harrisburg.
- The night before on my ride in from the airport to the hotel, Bob Lewis noted that there was a good hospital across the street from the hotel…… premonition?
- A missed step outside a karaoke bar and down he went!

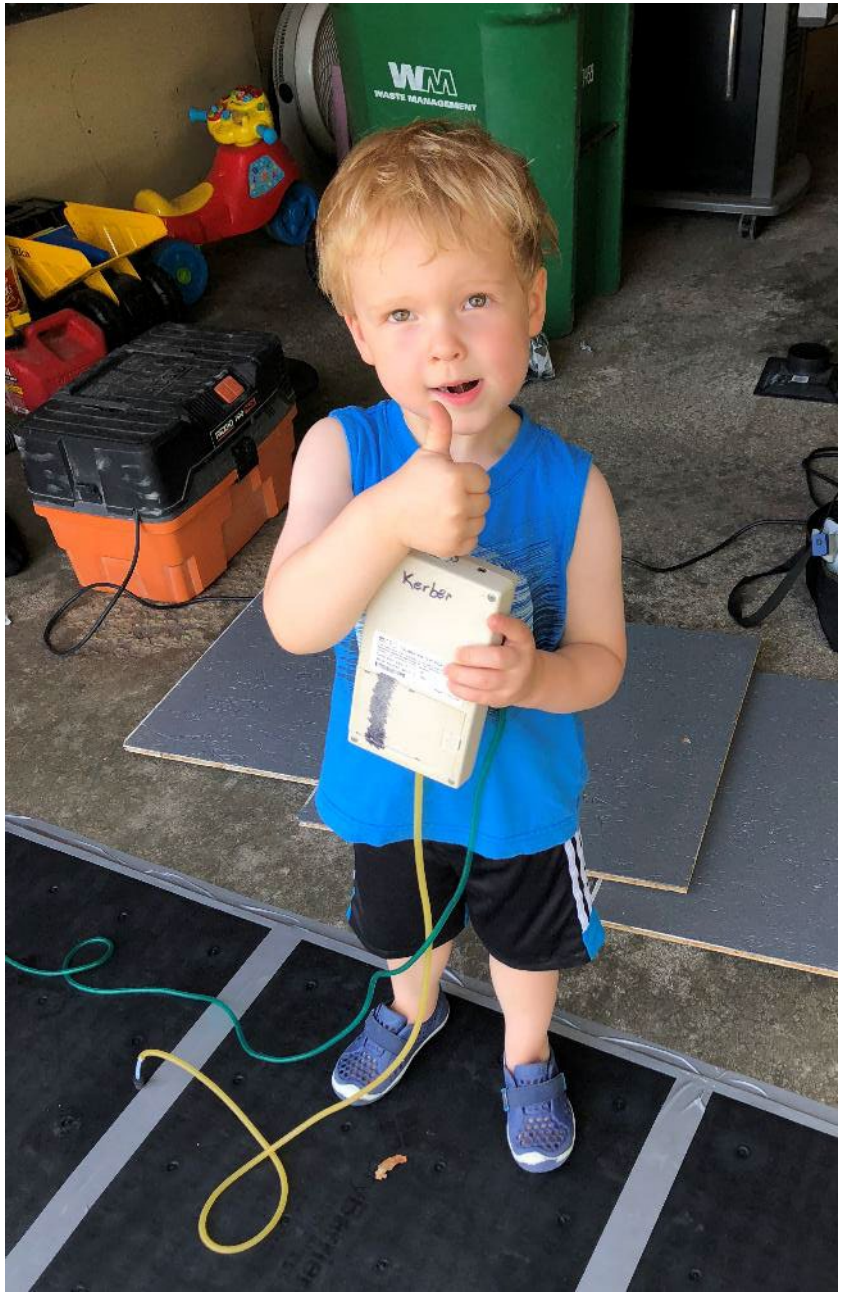


Why Do We Do This?

- Raise the bar
- Increase profits while decreasing waste
- Grow the next generation of great mitigators

- BBQ

- It’s fun!



Ready to Optimize Your Radon Mitigation Systems?

- ***Set yourself apart from your competition.***
- ***Don't walk away from another difficult to fix house.***
- ***We will show you how to design your systems with better energy consumption in mind***
- ***Improve your bottom line!***

Who Will Bleed with Snead Now?





OMADs Coming in 2027!

Oakdale MN Spring 2027

Lenexa KS October 2027

Dates and Locations at radoncourses.org







Get Ready for Orgasmic Euphoria!



