



## ***Introduction to Air/Gas Filtration I***

**Instructor: Dr. Thad Ptak**

**Course: 8:00 am – 12:00 pm, .4 CEUs**

This course is to introduce the basics of air/gas filtration. It provides fundamental information on air filtration principles, filter media and filters, applications, and testing. To meet audience interests, this course is divided into four parts (I – IV). It is recommended to take all parts; however, they can be taken independently.

**Learning Objectives** – After taking Part I of Introduction to Air/Gas Filtration, the learner will understand:

- Kinetic theory of gases applicable to filtration
- Particle size distribution
- Particle properties
- Filtration theory
- Filtration models
- Filter media physical and filtration characteristics
- Classification of filter media
- Manufacturing processes of nonwoven media
- Electrostatically enhanced filter media
- Filter design process

### **Part 1 Outline:**

- Chapter 1 - Introduction, definitions
- Chapter 2 - Properties of gases
- Chapter 3 - Properties of particles
- Chapter 4 - Basic air/gas filtration theory
- Chapter 5 – Types of filter media
- Chapter 6 – Structural and filtration properties of media
- Chapter 7 – Components of filters
- Chapter 8 – Introduction to filter design

## Who Should Attend:

This course is designed for people who are new to the filtration industry either in technical, sales, or business functions. It is also very good for those who have been in this industry for a while to get a better understanding of how fundamentals can be used for practical applications.

## Instructor:



**Dr. Thad Ptak** has over 30 years of experience in filtration technologies, aerosol science, and indoor air quality. He has conducted extensive research in the areas of development of filter media and filters, portable air cleaners, indoor air quality, sensors for IAQ, and instrumentation for particle generation and measurement. Currently, Thad has his own consulting company specializing in providing solutions in the areas described above. He was involved in the research, development, and manufacturing of products and technologies in consumer products, HVAC, portable air cleaner, and automotive filtration applications for several different organizations including AO Smith, Columbus Industries, StrionAir, ArvinMeritor, and others. Dr. Ptak has presented more than 50 technical papers related to the particle technology and filtration field, chaired and organized several sessions, and co-chaired a filtration conference. He actively participates in technical societies and numerous standard committees. Dr. Ptak won the Wells Shoemaker Award for leadership and service to the filtration industry and Fellow Member Award for sustained significant contributions to filtration technologies and filtration industry.