## ADVANCED SERIES OF NONWOVENS TRAINING COURSES

The Nonwovens Institute, NC State University, Raleigh, NC

## September 21-24, 2015

The course will be held in NC State University, The Nonwovens Institute: 1000 Main Campus Drive, Raleigh, NC 27606, College of Textiles Building, Suite 2418

## NONWOVEN MICRO AND NANO-FIBER FUNDAMENTALS AND APPLICATIONS

This course is designed for professionals with a Bachelor of Science degree in engineering, technical or textiles, or a minimum of one year experience with engineered fabrics. The course provides the fundamentals of the electrospinning method for the production of high quality nonwoven-structured micro and nano-fiber layers relevant to many applications such as filtration and separation, biomedicine, composites, catalysis, and smart fabrics.

Instruction focuses on the raw materials, technologies, tests, and evaluations used to create end use products. You will gain insight into the industry with market forecasts and learn more about the significant role these materials will play in the engineered fabrics and other industries; and gain hands-on experience creating these incredible materials using NWI's state-of-the-art facility.

## **Topics Covered Include:**

- Polymer properties and fiber formation
- Polymers used in electrospinning from both solvents and melts
- Familiarization with the nozzle and nozzleless electrospinning processes
- Composite materials with unique properties
- Post-processing methods leading to new ceramic nano-fiber materials

- Nonwoven related micro and nano-fiber end products - when and why to use nano-fibers in:
  - > Air and liquid filters
  - > Hygiene products
  - > Wound care materials
  - > Protective garments
  - > Sound absorption
  - > Solar cells
  - > Batteries
  - > Fuel cells
  - Catalysis testing and evaluation of nano-fiber materials

This course is designed for nonwovens industry professionals who desire a deeper knowledge and understanding of nonwoven processes and products including:

- · R&D professionals
- Product and manufacturing management
- · Process engineers
- · Quality control
- Technical sales