TOP INDUSTRY EXPERTS IN ONE TRAINING EVENT!
Join Natoli and the foremost subject matter experts for a unique hands-on training and troubleshooting panel discussion

TONY CARPANZANO  FORMULATION
STUART PORTER  COATING
DILIP PARIKH  GRANULATION
...and more!

» LEARN new approaches to your formulation development
» BUILD relationships for lasting support with industry experts and peers
» ENHANCE critical thinking and problem-solving skills
» APPLY scientific principles to your own formulation development

TABLET DEVELOPMENT & SCALE-UP TRAINING COURSE
February 25-27, 2019

100 Emlen Way, Telford, PA 18969
Learning OBJECTIVES:

Participants of this training course will finish with an understanding of these concepts:

» Tablet design
» Tablet compression with scale-up
» Blending
» Granulation (roller compression, high shear, fluid bed)
» Compaction emulation
» Tablet coating
» Excipient selection
» Formulation development strategies

Who Should ATTEND?

This course is designed for those involved in tablet compression Research & Development including:

» Compounding Pharmacists
» Technology Transfer Scientists
» Process and Validation Engineers
» Formulation Scientists
» Research Associates

This course provides comprehensive insight into the tablet development process, and scale-up methodology with the same unique classroom and hands-on training you have come to expect from Natoli. The 3-day training course incorporates open discussions, one-on-one consultations, Q&A, and live demonstrations. Light breakfasts and full lunches will be provided.

I have been in pharmaceuticals for a long time and I was impressed with the amount of knowledge and experience Natoli has to offer.

~ William Patronick, Allergan

ONLY $2000

$1850 Early Bird pricing through February 4th

REGISTER ONLINE!
natoli.com/registration-for-training-in-telford-pa
**B I L L  T U R N E R**  
Mr. Turner is the Technical Service Manager for the Tooling and Tablets division at Natoli Engineering Company, Inc. With over 40 years in the industry, all of it with Natoli, Mr. Turner’s previous positions included tablet designer, tool designer, and hob manufacturing. He served as Engineering Manager for 20 years and a Technical Customer Service Representative for 15 years. He educates and trains Natoli sales and service staff and conducts industry training seminars regarding tablet design, tool design, and troubleshooting of tablet designs and tooling.

**R O B E R T  S E D L O C K**  
Mr. Sedlock is the Director of Technical Training and Development for Natoli Engineering Company. He is a leading expert in the tablet compression industry with over 18 years of experience and has authored numerous technical articles for Pharmaceutical Technology and American Association of Pharmaceutical Scientists. Mr. Sedlock is responsible for global solid dosage customer support, training seminars, contract compression services and continuous research.

**T O N Y  C A R P A N Z A N O, B.S., R.P.H.**  
Mr. Carpanzano worked in pharmaceutical product development for 32 years, having held positions in liquids formulation, pre-formulation, exploratory development, technical services and clinical manufacturing, with a major focus on advanced solid dosage form and modified-release dosage form development. He holds patents on modified-release technologies and abuse-resistant / abuse-deterrent technologies. He has worked in companies including Richardson-Vicks, Procter & Gamble, generic companies, Schein and Copley Pharmaceutical, Purdue Pharma and Penwest, and has spent the last four years working in the excipients industry for JRS Pharma, LP, as Director of R&D. He is also a licensed pharmacist.

**S T U A R T  C.  P O R T E R,  P H . D.**  
Dr. Porter is currently President of PPT, a pharma consulting company, and is also a Technical Consultant, focusing on global film-coating technology, to Ashland Specialty Ingredients (ASI). Previously, Dr. Porter had over 25 years extensive technical experience with Colorcon and was responsible for leading the development of a broad range of coating systems for which that company is well recognized.

Dr. Porter is a globally recognized leader in tablet-coating technology, having over 40 years of experience with film-coating applications, the design of immediate- and modified-release coating products, unit operations associated with the preparation of oral solid dosage forms, and oral drug delivery. His recent interests have expanded into continuous processing as it relates to the manufacture of oral solid dosage forms and the development of pediatric dosage forms.

He has published and presented widely on coating technology and holds eight patents related to coating systems.

Dr. Porter is a member of the Royal Pharmaceutical Society of Great Britain, the American Association of Pharmaceutical Scientists, and the American Pharmacists Association.

**D I L I P  M.  P A R I K H**  
Mr. Parikh is president of the pharmaceutical technology development and consulting group DPharma Group Inc. Mr. Parikh has more than 40 years of experience in product development, manufacturing, plant operations and process engineering at various major pharmaceutical companies in Canada and the U.S. Prior to starting DPharma Group, he held the position of vice president of operations and technology at Synthon Pharmaceuticals in North Carolina and vice president and general manager at Atlantic Pharmaceuticals Services in Maryland. He is the editor of Handbook of Pharmaceutical Granulation 3rd ed. and author of the recently published book How to Optimize Fluid Bed Process Technology. He has authored several book chapters and articles on various pharmaceutical technologies, including Quality by Design, process assessment and contract manufacturing. He has been an invited speaker at scientific conferences worldwide on solid-dosage technologies development and manufacturing.
MICHELLE QUINN
Ms. Quinn joined EMD Millipore in January 2008. The past seven years Ms. Quinn has been the Field Marketing Specialist/technical consultant for the pharmaceutical excipient division supporting liquid, semi-solid and solid dosage formulation. The first three years with EMD Millipore, she worked as the application chemist for the protection and care group. Prior to joining EMD Millipore, Ms. Quinn worked for Rohto Mentholatum Research as a formulation chemist. Ms. Quinn also spent 6 years working for Whitehall Robins (Hammonton, NJ) as a solid dosage formulation chemist and a pre-formulation chemist. Ms. Quinn has a bachelor’s degree in Biochemistry from Rutgers University.

RYAN CRAWFORD
Mr. Crawford has experience working with a variety of processes involved in the manufacturing of solid dosage forms. These include roll compaction, tablet coating, high shear granulation, twin screw granulation, fluid bed coating, and fluid bed granulation. He has lectured and conducted hands on laboratory training at multiple seminars in the United States and abroad. Mr. Crawford graduated from Iowa State University with a BS in biology.

JOHN STURGIS
Mr. Sturgis is a Technical Support Engineer for Natoli Engineering. His current responsibilities include tablet press training, product development training, tablet press calibration and maintenance, compression consulting, and technical sales. His experience includes pharmaceutical solid dosage production, process scale-up, pharmaceutical solid dosage development, data acquisition systems, and tablet press maintenance. He obtained his degree in Mechanical Engineering from Drexel University.

JOHN YIN
Mr. Yin graduated from Stony Brook University in 2001 with a Bachelor’s Degree in Engineering Chemistry. He has been a member of the Freeman Technology team for nearly 10 years and as US Product Manager he provides comprehensive support and education for new and existing users of the Company’s technology. Mr. Yin regularly presents at conferences and workshops throughout the US on the subject of powder rheology helping industry and academia to further understand powder behaviour.

LECTURE TOPICS:

BILL TURNER
» Compression Tooling Fundamentals—Common Compression Issues and Remedies
» Optimized Minitab Tooling and Multi-tip Tooling Designs

ROBERT SEDLOCK
» Tablet Compaction and Compression—The Rotary Tablet Press Process with Common Issues and Remedies
» Compaction Emulation—Mechanical Material Characterization and Manufacturing Simulation

DILIP PARIKH
» Blending Strategies and Scale-Up Techniques
» Granulation Process and Scale-Up Factors

TONY CARPANZANO
» A Guide to Rational Tablet Formulation

MICHELLE QUINN
» Excipients with a Purpose

STUART PORTER
» Film Coatings—Enhancing the Stability of Oral Solid Dosage Forms
» Application of Film Coatings to Pellets and Mini Tablets—Producing Taste Masked Products Suitable for Pediatric Administration

LAB SESSIONS:

ROBERT SEDLOCK
» Compaction Emulator – Tablet Material Characterization Studies and Scale-up Simulation Including Helium Pycnometer
» RD10A Tablet Development Profile Generation and Tablet Physicals

JOHN STURGIS
» Tablet and Tool Designs
» Rotary Tablet Press Operations and Troubleshooting

RYAN CRAWFORD
» Wet Granulation Process—High Shear
» Dry Granulation Process—Roller Compaction

JOHN YIN
» FT4 rheometer / Powder Characterization

O’HARA TECHNOLOGIES
» Tablet Coating Operations
**DAY 1 Monday, February 25, 2019**

8:00-9:00 am  **Blending Strategies and Scale-up Techniques** - Dilip Parikh  
9:00-10:00 am  **Granulation Process and Scale-up Factors** - Dilip Parikh  
10:00-10:15 am  Break  
10:15-11:15 am  **Tablet Compaction and Compression**—The rotary tablet press process with common issues and remedies - Robert Sedlock  
11:15 am - 12:00 pm  **Compaction Emulation**—Mechanical material characterization and manufacturing simulation - Robert Sedlock  
12:00-1:15 pm  Lunch Provided

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**DAY 2 Tuesday, February 26, 2019**

8:00-9:00 am  **Compression Tooling Fundamentals** - Common Compression Issues and Remedies - Bill Turner  
9:00-10:00 am  **Optimized Minitab Tooling and Multi-Tip Tooling Designs** - Bill Turner  
10:00-10:15 am  Break  
10:15-11:15 am  **Solid Dose Excipients, an Overview** - Tony Carpanzano  
11:15 am - 12:00 pm  **A Guide to Rational Tablet Formulation** - Tony Carpanzano  
12:00-1:15 pm  Lunch Provided

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<td>Dry Granulation Process: Roller</td>
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DAY 3 Wednesday, February 27, 2019

8:00-9:00 am  **Excipients with a Purpose** - Michelle Quinn
9:00-10:00 am  **Film Coatings—Enhancing the Stability of Oral Solid Dosage Forms** - Stuart Porter
10:00-10:15 am  **Break**
10:15-11:15 am  **Application of Film Coatings to Pellet and Minitablets - Producing Taste Masked Products Suitable for Pediatric Administration** - Stuart Porter
11:15 am  **Round Table Discussions—Q&A (Boxed Lunches)**

ROUND TABLE Q&A WITH ALL INSTRUCTORS

REGISTER ONLINE!

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Do you have a question or comment that you would like to be addressed about this event? Please email Robert Sedlock at rsedlock@natoli.com

Questions? Comments?

Book Your Room Early!
Room and Rate are Limited!

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Lansdale, PA 19446

To make reservations, guests can call the reservations department at +1.800.321.2211 and ask for the “NST Room Block” or book online with the link https://bit.ly/2Rb3eEc

Please make your reservations by Sunday February 3, 2019 to receive your group rate. Reservations made after this date will be subject to prevailing rate and availability. Please book your room early as rooms available at this rate are limited.
This training event is being held at our Natoli Scientific Research & Development Laboratory in Telford, Pennsylvania

Our facility offers these formulation-related services:

- Characterizing Material Properties and Deformation Characteristics
- Powder Flow Data and Evaluations
- Formulation Evaluation
- Tablet Troubleshooting
- Compaction Emulator
- Tool Steel & Coating Recommendations
- Scale-Up Support
  ...and more!

Our state-of-the-art R&D laboratory in Telford, Pennsylvania, houses a full range of lab-scale R&D and production tablet presses, dry and wet granulation machines, a compaction emulator, and coating equipment. The troubleshooting and custom research services we perform address each stage of product development.