



TSI SPRING FLUID WORKSHOP POWERSIGHT LDV/PDPA WORKSHOP

April 24th to 25th, 2019

Wednesday, April 24 th , 2019	
9:00 am to 9:10 am	Welcome and Introduction Location: Amazon
9:10 am to 10:15 am	<u>Laser Doppler Velocimetry</u> <ul style="list-style-type: none">• Principles• Light Scatter• Measurement Volume Dimensions and Fringe Spacing• Seeding Location: Amazon/Nile
10:15 am to 10:30 am	Break
10:30 am to 12:00 pm	<u>Optical Systems and Signal Processing</u> <ul style="list-style-type: none">• Making 1.2 and 3 Component Measurements• Frequency Shift and Downmixing• Signal processing of the Doppler signals• Introduction of the FSA3800 signal processor system Location: Amazon/Nile
12:00 pm to 1:00 pm	Lunch
1:00 pm to 3:00 pm	<u>LAB: PowerSight Optics Setup, Alignment and operation</u> <ul style="list-style-type: none">• Installation and Operation of the PowerSight LDV system• Beam crossing adjustment and optimization• Coupling of fiber optic probe onto the PowerSight module• Introduction of the FlowSizer 64 software package• Tracking data, create custom plots, and statistics windows• Data structure, replaying data, and recording values Location: Yangtze Demo Room
3:00 pm to 3:15 pm	Break
3:15 pm to 4:00 pm	<u>LAB: Making measurements by groups</u> <ul style="list-style-type: none">• Air or water flow measurements Location: Yangtze Demo Room
4:00 pm	Wrap-up for the day

Thursday, April 25th, 2019

9:00 am to 10:15 am	<p><u>PDPA</u></p> <ul style="list-style-type: none">• Theory Background• Intensity Validation, Phase Validation• Probe Volume Correction• Signal Processor Considerations• Doppler Bursts and Burst detection• Frequency and Phase Processing <p>Location: Amazon/Nile</p>
10:15 am to 10:30 am	Break
10:30 am to 12:00 pm	<p><u>LAB: Introduction and operation of the PowerSight PDPA system</u></p> <ul style="list-style-type: none">• Installation and alignment of the PDPA Receiver probe• Use Viewpoint to complete the alignment• Use of the FlowSizer 64 software for the PDPA• Diameter Settings• Intensity Validation settings• Phase Calibration Settings <p>Location: Yangtze Demo Room</p>
12:00 pm to 1:00 pm	Lunch
1:00 pm to 3:15 pm	<p><u>LAB: Continue with the operation of the PowerSight PDPA system</u></p> <ul style="list-style-type: none">• Measurement of spray using the PowerSight system• Verify Receiver Alignment• Optimize Settings• View Intensity Validation and Diameter Difference Plots <p>Location: Yangtze Demo Room</p>
3:15 pm to 3:30 pm	Break
3:30 pm to 4:00 pm	<p><u>Discussion of various spray applications and related solutions</u></p> <ul style="list-style-type: none">• Phase Calibration – Calibration Diode• Coincidence <p>Location: Amazon/Nile</p>
4:00 pm	Summarize and Close