



**VIATC/MFPT2023 CO-LOCATED CONFERENCES
 COMBINED TECHNICAL PROGRAM SCHEDULE**

TUESDAY PRE-CONFERENCE WORKSHOPS (July 25)

Pre-Conference Workshop 1 Red Jacket	8 am - Noon	“Lubrication Best Practices: How to Double the Life of Your Rolling Element Bearings”, Mark Barnes, DES Case
Pre-Conference Workshop 2 Governors Ampitheatre	8 am - Noon	“Multiplane Balancing Using Commonly Available Modern Tools”, Michael Titone, PE and Steve Ciesla, PE, Bently Nevada
Pre-Conference Workshop 3 Governors Ampitheatre	1 – 5 pm	“Demystifying Shaft/Coupling Misalignment Signature using Vibration Analysis”, John Piotrowski (Turvac, Inc.) and Suri Ganeriwala (SpectrQuest)
Pre-Conference Workshop 4 Red Jacket	1 – 5 pm	“Basics of Modal Testing & Analysis”, John Hiatt, Dewesoft
Pre-Conference Workshop 5 Tesla	8 am – 5 pm	“Introduction to ESA/MCSA”, Howard Penrose, Ph.D., CMRP, President, MotorDoc® LLC



MFPT

WEDNESDAY VIATC/MFPT2023 TECHNICAL SESSIONS SCHEDULE (July 26)

Registration	6:30 am – 5 pm	
Cascades Ballroom	7 – 8 am	KEYNOTE BREAKFAST SPONSORED by IMI Sensors, A PCB Division
Opening General Session SPONSORED by IMI Sensors, A PCB Division 8:00 – 10:00 am Cascades Ballroom		Opening Remarks: Robert Sayer, PE VIATC Technical Program Chair
		VI President Welcome: Gyorgy Szasz, Ph.D., President The Vibration Institute
		VI Keynote Address: “The Business Case for Improving Reliability”, Dr. Andy Page, Director, PriceWaterhouseCoopers
		Invited Speaker: “50 Years of the VI; A Review of the History of the Institute and It’s Members”, Tom Spettel, VI Board Member Emeritus
		MFPT Chairman Welcome: Suri Ganeriwala, Chairman, MFPT “A Review of the History of MFPT”
Coffee Break	10 – 10:30 am	BREAK SPONSORED by IMI Sensors, A PCB Division

VI Balancing Track	10:30 am – Noon	“Multiplane Balancing Using Commonly Available Modern Tools”, Michael Titone, PE and Steve Ciesla, PE, Bently Nevada
Red Jacket		
VI Case Study Track	10:30 – 11:15 am	“Two Case Studies using Amplified Video for Vibration Troubleshooting”, Han-Chian Gee, PE, Chief Maintenance Engineer, Formosa Plastics Corp
Porter	11:15 am -Noon	
VI General Track	10:30 – 11:15 am	“Measuring Shaft Centerline Displacement with Relative Displacement Sensors Mounted on the Sides of Bearing Housings”, Eduardo Murphy Arteaga
Tubman	11:15 am - Noon	
VI Sensor Technology Track	10:30 am – Noon	“Characterizing Off-Line to Running Movement Using High-Resolution Imagery”, John Piotrowski, Turvac, Inc., and Bill Marscher, PE, CEO, Mechanical Solutions, Inc.
Devaux		
MFPT Signal Analysis Track	10:30 – 11:00 am	“Analysis of Reciprocating Machinery based on Crank-Angle Data”, Juan Carlos Urquiola, Technical Support, Exterran
	11:00 – 11:30 am	
Governors Ampitheatre	11:30 am - Noon	
		“A Fiber Optic Distributed Temperature Sensor for Monitoring Shipboard Electrical Equipment”, Chris Nemarich, Electrical Engineering Manager, Naval Sea Systems Command
		“Demystifying Shaft/Coupling Misalignment Vibration Signature”, Suri Ganeriwala, President and CTO, SpectraQuest

MFPT Data Mgmt & AI Track	10:30 – 11:00 am	“Asset Health Management Utilizing Batch Multivariate Pattern Analysis”, Chance Kleineke, Systems Engineer, Engineering Consultants Group
Shoelkopf	11:00 – 11:30 am	
	11:30 am - Noon	
Cascades Ballroom	Noon – 1 pm	LUNCH SPONSORED by Hansford Sensors
VI Equipment Specific (Electric Motors)	1:00 – 2:00 pm	“Impact of Incoming Power on Electrically Driven Electrical and Mechanical Components”, Howard W Penrose, Ph.D., CMRP, President, MotorDoc LLC
Red Jacket		
VI Complimentary Technology	1:00 – 2:00 pm	“Lubrication Continuous Improvement through Prescriptive Oil Analysis”, Mark Barnes, DES Case
Porter		
VI AI/Data Management Track	1:00 – 2:00 pm	“How "AI" Techniques can Augment the Work of an Experienced Vibration Analyst”, Ed Spence, The Machine Instrumentation Group
Devaux		
VI Basics of Vibration Track	1:00 – 2:00 pm	“Back to the Basics, Masses and Springs and What They Teach Us About Vibration”, Austin Creasy, Ph.D., Purdue University
Tubman		
MFPT Signal Analysis Track	1:00 – 1:30 pm	“Rotating Rake Mode Measurement System – Signal Collection and Analysis Techniques”, Daniel Sutliff, Acoustics Engineer, Nasa Glenn Research Center
Governors Amphitheatre	1:30 – 2:00 pm	
		“Track this Bearing for me Please”, Victor Arzani, Principal Engineer, Duke Energy

MFPT Diagnostics & Prognostics Track	1:00 – 1:30 pm	“Vibration Resonance Spectrometry (VRS) for Advanced Streaming Prognostics of Complex Engineering Assets”, Dr. Yawen Wang, Professor, University of Texas, Arlington.
Schoelkopf	1:30 – 2:00 pm	“A Digital Twin Architecture from Ontology for Diagnostics and Prognostics”, Mark Walker, Managing Director, D2KTech
VI Balancing Track	2:10 – 3:10 pm	“Balancing Techniques Forgotten (Or Lessons we had to Re-learn the Hard Way)” Thomas Lantrip, PE, Southern Company
Red Jacket		
VI Signal Processing	2:10 – 3:10 pm	“Fundamentals of Digital Signal Processing (Filtering and FFT)”, John Hiatt, Dewesoft
Porter		
VI Standards & Specifications	2:10 – 3:10 pm	“The Value of Standards, Specifications, and Acceptance Testing”, Brian Biby, Cleveland Cliffs
Devaux		
VI Basics of Vibration Track	2:10 – 3:10 pm	“Phun with Phascinating Phase: An exploration into the forces present in rotating systems”, Dave McFate, Alta Solutions
Tubman Room		
MFPT Signal Analysis Track	2:10 – 2:40 pm	“Can a Cell Phone Video Complement Accelerometer Measurements?”, Mark Richardson, President, Vibrant Technology
Governors Ampitheatre	2:40 – 3:10 pm	
MFPT Diagnostics & Prognostics Track	2:10 – 2:40 pm	“Change Detection for Improved Maintenance Notification”, Eric Bechhoefer, Chief Technology Officer, GPMS International
Schoelkopf	2:40 – 3:10 pm	
		“Clustering-based signal segmentation methods with robust statistics in application to non-Gaussian health index data segmentation” Tomasz Barszcz, Chief Business Development Officer, AMC Technology Group

Coffee Break	3:10 – 3:30 pm	BREAK SPONSORED by IMI Sensors, A PCB Division
VI Pumps & Piping Track	3:30 – 4:30 pm	“Pressure Pulsation Related Fixed Equipment Vibration”, Gyorgy Szasz, PhD & Lawrence M Matta PhD, PE, CFEI
Red Jacket		
VI Balancing Track	3:30 – 4:30 pm	“Next Generation Wireless Vibration Sensors”, Milt Olsen, President of Maintenance Technology Systems, LLC.
Porter		
VI Case Study/Video Amplification	3:30 – 4:30 pm	“Non-Contact Vibration Analysis of Rotating Equipment Assemblies Using Mobile Phone Camera’s and Slow-Motion Video Recording”, Dr. M. David Howard, CEO , ERBESSD Instruments
Devaux		
VI Basics of Vibration Track	3:30 – 4:30 pm	“Developing Instincts for Better Data Collection and Analysis”, Shawn Covington, CAT3 Certified Vibration Analyst, Electro-Mechanical Diagnostic Services, Inc.
Tubman		
MFPT Data Mgmt & AI Track	3:30 – 4:00 pm	“Novel Concept of Flexible Autonomous Condition Monitoring System based on Reductive-Redundant (RR) Algorithm and Statistical Scores”, Adam Jablonski, Researcher, AGH University of Science and Technology.
Governors Ampitheatre	4:00 – 4:30 pm	
MFPT Diagnostics & Prognostics Track	3:30 – 4:00 pm	“Defect Severity Measurement in Variable Speed Rolling Element Bearings”, Iain Epps, Managing Director, Mobolo Technology
Schoelkopf	4:00 – 4:30 pm	
Vendor Expo	4:40 – 7:00 pm	BEER & WINE RECEPTION SPONSORED by RDI Technologies

THURSDAY VIATC/MFPT2023 TECHNICAL SESSIONS SCHEDULE (July 27)

Cascades Ballroom	7 – 8 am	BREAKFAST SPONSORED by Waites
General Session 8 – 10 am Cascades Ballroom		Conference Update: Robert J. Sayer, PE VIATC Technical Program Chair Suri Ganeriwala, Chairman, MFPT
		MFPT Keynote Address: “Leveraging the Industrial Metaverse for Digital Twins”, Dr. Diego Galar, Professor of Condition Monitoring, Luleå University of Technology
		VI Invited Speaker: Mark Richardson, PhD “50+ Years of Modal Analysis”, Vibrant Technologies
Coffee Break	10 – 10:30 am	BREAK SPONSORED by Erbesd Instruments
VI Case Study Track	10:30 - 11:15 am	“Oil Whirl Instability on a Gearbox and Gas Turbine Unbalance Case Study”, Sergey Drygin, PhD, Bently Nevada
Red Jacket	11:15 am - Noon	
VI General Track	10:30 – 11:15 am	“Maximizing Value from your Remote Condition Monitoring Program on Rotating Machines: Parameters to Measure”, Jeremy Sheldon, Poseidon Systems, LLC & Akshat Sharma, “How a High Pressure Nuclear Pump Failure Can Be a Low Pressure Event Ending with Two Unsolved Mysteries”, Art Miller, South Texas Project
Porter	11:15 am - Noon	
VI Equipment Specific Track	10:30 – 11:15 am	A Review of ANSI/HI 9.6.4 (Pump Vibration Acceptance)

Devaux	11:15 am - Noon	A Review of ANSI/HI 9.6.8 (Specification for Dynamic Analysis) Pete Gaydon, Deputy Executive Director, The Hydraulic Institute
MFPT Academic Track	10:30 – 11:00 am	“Mitigation of Excessive Vibration at Motor NDE to Resonance with Tuned Mass Damper”, Dr. Meng Hee Lim, Associate Professor, University Technology of Malaysia
	11:00 – 11:30 am	“Identifying Tool Wear in Turning using Vibration Signals and Artificial Neural Network Classifier”, Dr. Amit Banerjee, Associate Professor, Penn State University
Tubman	11:30 - Noon	“Condition Monitoring of Reciprocating Compressor Valves via a Statistical Time-Frequency Approach”, Dr. Jason Kolodziej, Associate Professor, Rochester Institute of Technology
MFPT Diagnostics & Prognostics	10:30 – 11:00 am	“New Practical Approaches for Modern PHM”, Dr. Jacob Bortman, Head of PHM Laboratory, University in the Negev
Systems Engineering	11:00 – 11:30 am	“An Overview of Aeronautics Research at NASA with a Focus on Safety and Fault Prevention”, Daniel Sutliff, Acoustics Engineer, NASA Glenn Research Center
Sensor Technology		
Governors Ampitheatre	11:30 - Noon	“Arc Fault Monitoring” , Chris Nemarich, Electrical Engineering Manager, Naval Sea Systems Command
MFPT Lubrication Systems Track	10:30 – 11 am	“At-Machine and Remote testing options for Grease Lubricated Machinery”, Rich Wurzbach, Innovator of Lubrication Optimization, MRG Laboratories
	11 – 11:30 am	“Failure can be the Catalyst in Improving a CBM Program”, Kyle Beckett, Subject Matter Expert, US Navy Military Sealift Cmd.

	11:30 am - Noon	"Using AI to Advance Predictive Maintenance in Power Generation", Bill Malus, Capgemini Engineering	
Cascades Ballroom	Noon – 1 pm	LUNCH SPONSORED by Hansford Sensors	
VI Case Study Track	1:00 – 2:00 pm	"Two Case Studies: Vibration Fatigue Cracking in Reciprocating Compressor Suction and Discharge Bottle Nozzles", Michael Bifano, Ph.D. & Thomas Calko, The Equity Engineering Group	
Red Jacket			
VI Complimentary Technology	1:00 – 2:00 pm	"Introduction to Alignment Practices", John Piotrowski, Turvac, Inc.	
Porter Room			
VI Equipment Specific Track (Compressors)	1:00 – 2:00 pm	"Mitigation by detecting stall / surge induced vibration of centrifugal compressor at test bed - A proposal to OEM and End user", Mantosh Bhattachaya, SME, Petrofac	
Devaux			
MFPT Academic Track	1:00 – 1:30 pm	"The Power of Physical Insights Combined with Unsupervised Learning Techniques for Gear Fault Detection and Severity Classification" Lior Bachar, Student PHM Laboratory, Ben Gurion University of the Negev	
Tubman	1:30 – 1:45 pm		"An Advanced Approach for Breakage Faults Diagnostics in Helical Gear", Roe Cohen, Mechanical Engineer, Ben Gurion University of the Negev
	1:45 - 2:00 pm		"Limitations of AI for CBM", Omri Matania, Mechanical Engineer, Ben Gurion University of the Negev
MFPT Track #1 Systems Engineering	1:00 – 1:30 pm	"System Engineering Principles with a Focus on Failure Prevention", John Lucero, Chief of Acoustics Branch, NASA Glenn Research Center	

Signal Analysis	1:30 – 2:00 pm	“Electrical Signature Analysis of Oil and Dry Type Transformers”, Howard Penrose, President, MotorDoc, LLC.
Governors Ampitheatre		
MFPT Track #2 Data Mgmt & AI	1:00 – 2:00 pm	“Predictive Maintenance in Defense Marine Sector: A European Perspective”, Dr. Diego Galar, Professor of Condition Monitoring, Operation and Maintenance Engineering, Luleå University of Technology
Schoelkopf		
VI Video Amplification	2:10 – 3:10 pm	“Motion Amplification Meets Modal: What's So Interesting About That?”, Jeff Hay, RDI Technologies
Red Jacket		
VI Equipment Specific (Pumps & Piping)	2:10 – 3:10 pm	“An Indepth Look at the ASME OM-3 Method to Evaluate Piping Vibration with Case Studies”, Nathan Libertowski, Staff Engineer, The Equity Engineering Group
Porter		
VI Standards & Specifications Track	2:10 – 3:10 pm	“Vibration Specifications and Standards as Part of EPC Contracts”, Kaitlin Spak, Ph.D., PE, Principal Engineer, Exponent
Devaux		
MFPT Academic Track	2:10 – 2:40 pm	Experimental Study on Interface Debonding Detection and Imagination for Concrete Filled Steel Tube of a Long-span Suspension Bridge Tower with EMI”, Dr. Bin Xu, Huaqiao University, Civil Engineering, Professor and Director, Key Lab for Intelligent Infrastructure
Tubman	2:40 – 3:10 pm	
		“Experimental Study on Interface Debonding Defect Detection in a Large-Scale Concrete-filled Steel Tube Based on Surface Wave Measurements”, Dr. Bin Xu, Huaqiao University, Civil Engineering, Professor and Director, Key Lab for Intelligent Infrastructure

EXPO Innovation/Solutions	2:10 – 2:40 pm	Gold Sponsor Presentation IMI Sensors, A PCB Division
Tesla	2:40 – 3:10 pm	Silver Sponsor Presentation Hansford Sensors
MFPT Sensor Technology Track	2:10 – 2:40 pm	“Extending Energy Storage Life of IOT Sensors”, Ed Spence, Managing Director, Machine Instrumentation Group
Governors Ampitheatre	2:40 – 3:10 pm	“Digital Bus Based Vibration Sensors”, Kevin Westhora, Director of Sales, Dytran Instruments, Inc.
MFPT Lubrication Track	2:10 – 2:40 pm	“Maximizing Value from your Remote Condition Monitoring Program on Rotating Machines: Parameters to Measure”, Jeremy Sheldon, Director-Asset Management and Analytics, Poseidon Systems
Sensors Track Schoelkopf	2:40 – 3:10 pm	“How Accurate are Video Vibration Measurements?”, Andy Lerche and Bill Marscher. PE, Mechanical Solutions, Inc.
Coffee Break	3:10 – 3:30 pm	BREAK SPONSORED by Erbesd Instruments
VI Ultrasound Track Porter	3:30 – 4:30 pm	“Exploring the Benefits of Adding Ultrasound to a Reliability Program – Real World Case Studies”, Robert Dent, SDT Ultrasound Solutions
EXPO Innovation/Solutions	3:30 – 4:00 pm	Sponsor Presentation Waites
Tesla	4:00 – 4:30 pm	Sponsor Presentation
VI Academic & Research Track	3:30 – 3:50 pm 3:50 – 4:10 pm	“A Study on the Change of Shock Absorber Characteristic for Different Tune-up Settings”, Aniruddha Mitra, Ph. D. and Joshua Moore, Georgia Southern Univ.

Tubman		“An Experimental Verification on Inducing Instability in a Tall Structure Under Seismic Load Using a Single Axis Shake Table”, Kameron Nez and Aniruddha Mitra, Ph.D., Georgia Southern University
MFPT Sensor Technology Track	3:30 – 4:00 pm	“IEPE Vibration Sensors with Self-Calibration Capability”, George Zusman, President, Vibration Measurement Solutions
Governors Ampitheatre	4:00 – 4:30 pm	“Damage Detection and Monitoring of Wind Turbines and Related Structures”, Matt Davis, Engineer, Luna Innovations
MFPT Data Management and AI	3:30 – 4:00 pm	“Vibration Analysis with Wireless Technology in Off-Highway Vehicles: Measurements Triggered on Asset Operation”, Caroline Menegat, Operations Manager, Dynamox
Schoelkopf	4:00 – 4:30 pm	“Methodology for Monitoring the Dynamic Condition in Planetary and Slewing Bearing of Ore Tailings Thickeners at Low Speed”, Danilo Braga, Vibration Specialist, Dynamox
Vendor Expo & Reception 50th Anniversary Celebration	4:40 – 7:00 pm	BEER & WINE RECEPTION 50 th Anniversary Cupcake Celebration SPONSORED by IMI Sensors, A PCB Division PRIZE RAFFLE @ 6:45 pm

FRIDAY VIATC/MFPT2023 TECHNICAL SESSIONS SCHEDULE (July 28)

Breakfast Cascades Ballroom	7 am – 8 am	BREAKFAST SPONSORED by Waites
MFPT General Session	8:10 – 9:40 am	MFPT Annual Meeting Invited Speaker: Mantosh Bhattacharya, SME Turbo-Machinery, Petrofac “Centrifugal Compressor Rotor Dynamics”,
Governors Ampitheatre	9:40 – 10:00 am	MFPT Annual Meeting, Awards
VI Track #1	8:10 – 9:00 am	"How Can Damping be Used to Eliminate Excessive Vibration", Ray Kelm, PE, Kelm Engineering
Red Jacket		
VI Case Study Track	8:10 - 9:00 am	“Vibration Analysis of Low-Speed, Low-Vane Count Pumps with Case Studies”, Robert J. Sayer, PE, Owner, Applied Structural Dynamics
Porter/Devaux		
VI Video Amplification	9:10 – 10:00 am	“Modal Analysis Using Motion Magnification”, Bill Marscher, PE, CEO and Andy Lerche, Sr. Staff Engineer, Mechanical Solutions, Inc.
Red Jacket		
VI Case Study Track	9:10 – 10:00 am	“Belt-Driven Case Studies”, Barry Cease, PE, Cease Industrial Services
Porter/Devaux		
Coffee Break	10:00 – 10:30 am	BREAK SPONSORED by Erbesd Instruments
VI Feature Presentation	10:30 – 12:15 pm	“The Dirty Dozen - The Most Difficult Problems I Have Worked on the Last Forty Years.”, Nelson Baxter, PE
Cascades Ballroom		
Lunch Cascades Ballroom	12:30 – 1:30 pm	LUNCH SPONSORED by Hansford Sensors
Final Combined	1 pm – 1:30 pm	Vibration Institute Annual Meeting Gyorgy Szasz, Ph.D. President, &

General Session		Janine Komornick, Manager of Operations, The Vibration Institute
Cascades Ballroom	1:30 – 3:30 pm	“A Tribute to Some of the Early Pioneers Who are Responsible for the Development of the Vibration Analysis/Machine Failure Prevention Industries.” A Tribute to Jack Frarey – Nelson Baxter, PE A Tribute to Art Crawford – Robert Sayer, PE A Tribute to Don Bently – Tom Spettel A Tribute to Howard Gaberson – Suri Ganeriwala A Tribute to Henry Pusey -Chris Nemarich Video Tribute to Ron Eshleman