

# **Vibration Institute Annual Training Conference 2013**

**Jacksonville, Florida, USA  
19 - 21 June 2013**

**ISBN: 978-1-62993-211-8**

**Printed from e-media with permission by:**

Curran Associates, Inc.  
57 Morehouse Lane  
Red Hook, NY 12571



**Some format issues inherent in the e-media version may also appear in this print version.**

Copyright© (2013) by the Vibration Institute  
All rights reserved.

Printed by Curran Associates, Inc. (2013)

For permission requests, please contact the Vibration Institute  
at the address below.

Vibration Institute  
6262 S. Kingery Highway  
Suite 212  
Willowbrook, IL 60527

Phone: (630) 654-2254  
Fax: (630) 654-2271

[information@vi-institute.org](mailto:information@vi-institute.org)

**Additional copies of this publication are available from:**

Curran Associates, Inc.  
57 Morehouse Lane  
Red Hook, NY 12571 USA  
Phone: 845-758-0400  
Fax: 845-758-2634  
Email: [curran@proceedings.com](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)



## Academic Presentations:

DIGITAL TACHOMETER WITH USE OF DRAGON BOARD-12

*Young-Man Kim, The University of Michigan - Flint*

*Kyle Stokes, The University of Michigan - Flint*

*Chi Yixuan, The University of Michigan - Flint*

REDUCING INHARMONICITY IN FRETTED INSTRUMENTS

*Sara Panahkhahi, Purdue University*

*Mark French, Purdue University*

HIGH FREQUENCY ACCELERATION ENVELOPING USING LABVIEW™

*Ilya Shulkin, Purdue University*

A DETAILED EQUATION FORMULATION FOR THE ANALYSIS OF THE UNBALANCE OF AN OVERHUNG RIGID ROTOR

*José A. Méndez-Adriani, Central University of Venezuela*

### **1:30 – 3:00 p.m.:**

MACHINERY FUNDAMENTALS - TURBINES VIBRATION DIAGNOSTICS AND DESCRIPTION

*Thomas. B. Lantrip, P.E., Southern Company Services*

UNDERSTANDING THE DERIVATION OF THE AMPLIFICATION FACTOR AND ITS IMPORTANCE IN FREQUENCY RESPONSE RELATED EQUATIONS – PART I

*Nelson Baxter, P.E., ABM Technical Services*

*Brad Barton, ABM Technical Services*

### **3:30 – 5:30 p.m.:**

SINGLE CHANNEL IMPACT TEST WITH YOUR DATA COLLECTOR

*Allen Plymon, Plymon & Associates, LLC*

COMPARISON OF A HIGH FREQUENCY ENVELOPING (HFE) METHOD WITH STRUCTURE BORNE ULTRASONIC DYNAMIC DATA IN LOW AMPLITUDE SIGNAL CONDITIONS

*Tony Wofford, Clearwater Paper Corporation*

ASSET EFFECTIVENESS OF ROTATING EQUIPMENT THROUGH VIBRATION ANALYSIS

*Rishikesh Kumar, L&T Power, Engineering and Technology Group*

*Shrikant Bhave, Ph.D., L&T Power, Engineering and Technology Group*

CASE HISTORIES INVOLVING FORCE TRANSMISSIBILITY DAMPING AND UNBALANCE RESPONSE – PART II

*Nelson Baxter, P.E., ABM Technical Services*

## **Friday, June 21**

### **8:00 – 10:00 a.m.:**

SINGLE PLANE BALANCE MADE SIMPLE - AN INTRODUCTION TO BALANCING

*William T. Pryor III, PdM Solutions, Inc.*

CENTRIFUGAL PUMP LOW FLOW AND VANE PASS RESONANCE VIBRATION: A CASE STUDY

*Brandon S. Diegel, Omaha Public Power District*

PUMP ROTOR BOW

*Monroe Voyles III, P.E., Flowsolve Corporation*

**10:30 a.m. – 12:30 p.m.:**

CASE STUDY: ANALYSIS OF PROCESS FAN FAILURE AND BEARING HOUSING/SHAFT DESIGN ~~AWA~~ í

Ken Singleton, KSC Consulting LLC

Alan Barbee, Fortron Industries

Bob Bracher, ATK Maintenance

Bob McGinnis, P.E., McGinnis Engineering LLC

LOW SPEED CRITICAL ~~AWA~~ F

Monroe Voyles III, P.E., Flowserve Corporation

CALCULATING A VERTICAL PUMP MOTOR REED FREQUENCY AND SUBSEQUENT SYSTEM RESONANCE ~~AWA~~ ì

Bill Branca, P.E., Infigen Energy

Bryan Evans, TECO-Westinghouse Motor Company

**1:30 – 3:00 p.m.:**

MACHINE CONDITION EVALUATION: USING SEISMIC MEASUREMENTS ~~AWA~~ ì

Ronald Eshleman, Ph.D., P.E., Vibration Institute