

# **51st Annual Conference of SAVE International 2011**

**Portland, Oregon, USA  
6-9 June 2011**

**ISBN: 978-1-61839-120-9**

**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© (2011) by SAVE International  
All rights reserved.

Printed by Curran Associates, Inc. (2011)

For permission requests, please contact SAVE International  
at the address below.

SAVE International  
136 South Keowee Street  
Dayton, OH 45402, USA

Phone: (937) 224-7283  
Fax: (937) 222-5794

[info@value-eng.org](mailto:info@value-eng.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)

# TABLE OF CONTENTS

<b>Analysis on The System Interaction of VE in Public Works</b> .....	1
<i>Koji Saito</i>	
<b>The Application of a Value Assurance System to Oil &amp; Gas Development Projects</b> .....	12
<i>Guido Mattu, Franca Marini</i>	
<b>Behavioral Considerations for Improved Performance in Value Analysis</b> .....	42
<i>Howard B. Sole</i>	
<b>A Brave New World: Public-Private Partnerships, Design-Build Delivery, and Value Engineering</b> .....	59
<i>John E. Sloggy</i>	
<b>Build To Order, The Challenges and How VAVE Methodology Can Still Be Applied in Industries Where Design Is Heavily Restricted</b> .....	71
<i>Oscar Villegas</i>	
<b>Developing a Value Management Approach at the Institutional and Organisational Levels for the Saudi Public Sector</b> .....	78
<i>Mohammed Auda Alalshikh, Steven Male</i>	
<b>DFA Worker Allocation Improves Value of Lean Product Development</b> .....	98
<i>Rogelio Guzman Rosales</i>	
<b>Diagnosis and Study of VE Development in Korea</b> .....	105
<i>Young-Joo Suh, Yong-Su Kim</i>	
<b>Effective VE Achievement that Utilizes Expert Choice</b> .....	129
<i>Chan-Ho Shin</i>	
<b>Energy Simulation In Facility VE Studies – A Paradigm Shift</b> .....	157
<i>Benson Kwong</i>	
<b>Establishing Direction for Success In Manufacturing, Government and Construction Value Studies</b> .....	172
<i>Thomas M. Cook</i>	
<b>Event Planning Using Function Analysis</b> .....	200
<i>Lori Braase, Jodi Grgich</i>	
<b>The Function Wheel</b> .....	210
<i>Jeff Rude</i>	
<b>A Guide for Idea Generation and Creativity Using Function Analysis</b> .....	221
<i>Mohammed Ali Berawi</i>	
<b>How Can TRIZ Improve the Outcome of a Value Engineering Workshop</b> .....	232
<i>Sanjay Gaikwad</i>	
<b>How Can Value Methodology Connect the Product and Technology Design at Different Firms of a Supply Chain?</b> .....	246
<i>Ferenc Nádasdi, Tünde Kitanics Bokorné</i>	
<b>How DFV Process Can Improve Split AC Installation Process</b> .....	267
<i>Cintia A. Lopes</i>	
<b>How to Streamline Your Activity Time Through the Functional Approach</b> .....	275
<i>Hisaya Yokota</i>	
<b>How VA Improved the Automation Strategy at the City of Calgary</b> .....	286
<i>Mushtaq Rabbi, Don H. Stafford</i>	
<b>Improving the Performance of a Highway Construction Project Using a Systematic VM Approach</b> .....	300
<i>Jingyu Yu, Cai-Jiang Zhang, Mei-Yung Leung</i>	
<b>Integrated Project Risk Management</b> .....	307
<i>Armand Della Monica, Michael Propen</i>	
<b>Leading Accelerated Projects™: Thinking Outside the Blocks</b> .....	317
<i>Lon Roberts</i>	
<b>Lean Construction</b> .....	344
<i>Jim Rains</i>	
<b>The Management of Value</b> .....	356
<i>Michael Dallas</i>	
<b>A Method for Applying TRIZ to Enhance Brainstorming</b> .....	367
<i>John S. Borza</i>	
<b>More Efficient VE Workshops and Superior Results: The Advantages of a Streamlined Workshop and Early Change Effect Analysis</b> .....	390
<i>Brent Burris, Miguel A. Sanchez</i>	

<b>Pardon My French....VE Is All About the “F” Word .....</b>	<b>428</b>
<i>Sid Anwar</i>	
<b>Popularizing Value Engineering for Wider Applications.....</b>	<b>439</b>
<i>Pawan K. Aggarwal</i>	
<b>Revealing Hidden Economic Externalities In Major Projects with Value Methodology .....</b>	<b>458</b>
<i>Munsell McPhillips</i>	
<b>Risk Analysis &amp; VE for CMAR Projects .....</b>	<b>477</b>
<i>Renee L. Hoekstra</i>	
<b>“ROCKY ROAD” - No Match for VE Team .....</b>	<b>489</b>
<i>Warren Knoles</i>	
<b>Role of Sponsorship in Capturing VE Benefits .....</b>	<b>511</b>
<i>Robert Orlean</i>	
<b>A Streamlined Value Planning Process for Small Proscriptive Projects on a Budget .....</b>	<b>521</b>
<i>Paul Johnson</i>	
<b>For Securing Product Competitiveness - Total VI Activity (T.O.P.).....</b>	<b>532</b>
<i>N/A</i>	
<b>Typical Engineer Learning Styles and Their Implications for the VE Workshop .....</b>	<b>547</b>
<i>Gary R. Myers</i>	
<b>Uncertainty Modeling in Multiple Dimensions for Value Methodology .....</b>	<b>556</b>
<i>Robert B. Stewart, Gregory Brink</i>	
<b>Understanding the Advantages and Potential Pitfalls of Quantifying Performance Measures.....</b>	<b>574</b>
<i>Robert Prager</i>	
<b>Value Engineering - A Sure Step towards Product Innovation .....</b>	<b>596</b>
<i>R. Chandrashekar, Raghavendra Rao</i>	
<b>VE Introduction Plan and Future View of Environment .....</b>	<b>601</b>
<i>Choong-Heui Ahn, Sung-Ho Jin</i>	
<b>Value Engineering the Construction of Bored Tunnels in Competent Rock .....</b>	<b>617</b>
<i>Christopher Laughton</i>	
<b>The Value Management Approach in Germany: General Overview and Practical Examples .....</b>	<b>632</b>
<i>Marc Pauwels, Sebastian Meindl</i>	
<b>Author Index</b>	