

83rd National Lubricating Grease Institute Annual Meeting 2016

Hot Springs, Virginia, USA
11 - 14 June 2016

ISBN: 978-1-5108-3575-7

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© (2016) by National Lubricating Grease Institute
All rights reserved.

Printed by Curran Associates, Inc. (2017)

For permission requests, please contact National Lubricating Grease Institute
at the address below.

National Lubricating Grease Institute
249 SW Noel, Suite 249
Lee's Summit, MO 64063
USA

Phone: 816-524-2500
Fax: 816-524-2504

nlgi@nlgi.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: 845-758-2633
Email: curran@proceedings.com
Web: www.proceedings.com

TABLE OF CONTENTS

Lubricating Greases: Lubricate Eyes or Bearings	1
<i>A. Kumar, B. Mallory, N. Bhatnagar</i>	
A Comprehensive Approach to Replace Group I	16
<i>M. Fathi-Najafi, T. Norrby, L. Malm, J. Li</i>	
Days of Future Passed: A Critical Review of the Development of Highly Overbased Calcium Alkylbenzene Sulfonates	36
<i>J. Waynick</i>	
Fullerene - Like Inorganic Nanoparticles of Tungsten Disulfide (IFWS2) as Anti-wear and EP Additives in LiX Grease	62
<i>E. McDaniel, G. Diloyan</i>	
The Performances of Antimony / Zinc Diamyl Dithiocarbamate as Grease Additive	77
<i>A. Ma, M. Gu, J. Yao, M. Patel, R. Zhang</i>	
A Discussion on the Intrinsic Antiwear and Extreme-Pressure Performance of Overbased Calcium Sulfonate Complex Grease and Overbased Calcium Oleate Complex Grease	89
<i>R. Zhang</i>	
Observation of Thickener Structure in Grease	97
<i>M. Yoshihara, T. Moriuchi</i>	
A Study on Hybrid Greases Consisting of Lithium Grease and Diurea Grease Applied for Wide Temperature Range	112
<i>Y. Ting, C. ShiQi, N. Hong, S. Okamura</i>	
Extended Bearing Life Grease – “Tried and True” or New Technology?	128
<i>G. Aguilar, V. Nandurkar, A. Karve</i>	
Automatic Particle Sizing and Counting in Greases	152
<i>R. Wurzbach</i>	
Polymers to Enhance the Performance of Inorganic Greases	171
<i>D. Vargo, B. Lipowski</i>	
Polypropylene - A New Thickener Technology for Energy Efficient Lubrication	185
<i>J. Leckner, R. Westbroek</i>	
Study on a New Oxidation Stability Method for Lubricating Greases by Employing the Rapid Small Scale Oxidation Test	202
<i>G. Dodos</i>	
Complex Issue of Dropping Point Enhancement in Grease	224
<i>J. Kaperick, G. Aguilar, M. Lennon, M. Edwards</i>	
Managing the Health and High Costs of Robotics Using Grease Sampling and Analysis	253
<i>L. Williams</i>	
Translating Market Intelligence into Successful Strategies	263
<i>A. Jarquin</i>	
Silicone Copolymer Based Lubricants	272
<i>C. Chichester</i>	
Synthetic Grease Formulated Using PAO 6 and mPAO 65	285
<i>P. Bessette, K. Hope</i>	
Synthesis and Characterization of Mixed Thickener Containing Greases for Bearing Applications	292
<i>S. Chatra, D. Muller</i>	
Technologies to Enhance Synthetic Lubricating Greases	301
<i>G. Fish, C. Hsu</i>	
The Dynamic Particle Generation of Lubricating Greases for Use in Space Mechanisms	323
<i>J. Galary</i>	
Building Your Grease Formulation - “The Building Block Approach”	336
<i>J. Kaperick, G. Aguilar, K. Garelick, J. Guevremont, V. Nandurkar, A. Karve, M. Lennon, G. Pollard, M. Keisler, M. Edwards</i>	
Advancements in Bright Stock Refining Technology	363
<i>E. Casserly</i>	
Fischbach USA - 100% Plastic Grease Cartridges	377
<i>T. Clagett</i>	
Author Index	