

EXHIBIT 1: SHER PAUL SINGH (www.packlawusa.com)

EDUCATION

- Ph.D. Michigan State University, East Lansing, MI.
Agricultural Engineering, Dissertation: Accelerated Settling of Particles in a Herschel Bulkley Fluid Due to Vibration, 1987.
- M.S. Michigan State University, East Lansing, MI
Packaging, Thesis: Effect of Multiple Drops on Damage Boundary Curves, 1983.
- B.S. Punjab University, Chandigarh, India
Mechanical Engineering, 1982.

Academic Honors:

- * Established University Record in Mathematics, 1978.
- * Received University Merit Scholarship, 1978-1982.
- * Dean's List, 1978-1982.
- * Graduated with highest honors, Punjab University, 1982.

PROFESSIONAL POSITIONS

Board of Directors, International Association of Packaging Research Institutes
Board of Directors, International Safe Transit Association
Past Chair, ASTM D10-Packaging, Division 1, American Society of Testing and Materials International

Professional Honors:

- * Logistics Achievement Award, National Institute of Packaging and Handling Engineers, 2006.
- * Outstanding Mentor Award, Post-Baccalaureate Achievement Program, 1997.
- * Leadership Fellow, Michigan State University, 1996-1997.
- * Recipient of the Bronze Star in the 1990 Ameristar Packaging Competition.

PROFESSIONAL EXPERIENCE

- 07/2000 - present **PROFESSOR**, School of Packaging, Michigan State University, East Lansing, MI.
- 06/1990 - present **DIRECTOR**, Consortium of Distribution Packaging Research, School of Packaging, Michigan State University, East Lansing, MI.
- 07/1993 - 07/2000 **ASSOCIATE PROFESSOR**, School of Packaging, Michigan State University, East Lansing, MI.
- 05/1987 - 06/1993 **ASSISTANT PROFESSOR**, School of Packaging, Michigan State University, East Lansing, MI.
- 05/1985 - 03/1987 **INSTRUCTOR**, School of Packaging, Michigan State University, East Lansing, MI.

Responsibilities:

TEACHING: Teaching and course development in undergraduate courses covering packaging dynamics, machinery, robotics, materials and systems. Graduate course teaching and developing in dynamics and packaging systems.

RESEARCH: Proposal and budget preparation for projects related to product protection, cushion design, environmental measurement of dynamic forces and simulation, packaging machinery and systems interaction, high speed motion analysis and robotics. Management of shock and vibration testing laboratory. Planning and management of various jointly industry funded research projects in Distribution Packaging.

INTERNATIONAL PROGRAMS: Teaching overseas packaging courses. Provide technical guidance and consultancy in international packaging operations of various companies, universities and institutes.

06/1984 - 03/1985 **ASSOCIATE ENGINEER**, International Business Machines, Rochester, MN. Responsibilities included feasibility analysis for automated equipment. Involved with AGVS systems leading to just-in-time delivery of parts. Modeling and simulation of packaging lines. Fragility analysis of direct access storage devices and computer packaging design.

01/1984 - 06/1984
06/1982 - 06/1983 **TEACHING ASSISTANT**, School of Packaging, East Lansing, MI. Duties included co-teaching courses and laboratory work to packaging students in materials and systems, shock, vibration and compression, and microcomputer applications.

09/1983 - 12/1983 **ASSOCIATE IN**, Department of Mechanical Engineering, University of California, Davis, CA. Assisted in teaching the use of Finite Element Methods.

COMPANIES CONSULTED INCLUDE:

Dr. Singh has served as a consultant to over five hundred domestic and international companies. Projects include developing packaging line systems, package design for product protection, evaluate package specifications, automation for packaging, expert witness, packaging forensics, and education.

Abitibi Price	Libbey Glass
ABF Freightways	Libbey Owen Ford Glass
American Honda	Mars Inc. (Uncle Bens, Kal Kan)
Anheuser Busch	Maytag/Jenn-Air
Amoco Corporation	Mead Corporation
Avon Company	Menasha Corporation
Ball Corporation	Merck Pharmaceutical
Benckiser Consumer Products	Merillat Cabinets
Becton Dickinson Company	Michigan Dept. of Lottery
Deneb Robotics	Michigan National Bank
Dey Pharmaceutical	Miller Brewing Company
Dow Chemical Company	Owens Corning
Driscoll Strawberries	Owens Illinois
CHEP-USA	North American Van Lines
Chiquita Brands	PPG Industries
Coca Cola Company	Pepsi Bottling
Clorox Company	Phillips Electronics
Colombo Frozen Yogurt	Picatinny Arsenal
Columbia House	Pillsbury Co.
Coors Brewing Company	Pine Bluff Arsenal
Consolidated Freightways	Pioneer Hi-Bred
CSX Transportation	Purepak-Elopak
Frito Lay, Inc.	Revlon
General Electric Company	Sasib Packaging
General Mills	Siemens
Georgia Pacific	Simmons Mattresses
Hawthorne Ammunition Depot	Sonoco
Honeywell Company	Strohs Brewing Company
Iams Company	US Surgical
IBM Corporation	US Steel
International Honeycomb	Unisys
Idexx Pharmaceutical	United Parcel Service
James River Corporation	United States Navy & Marine Corps
Johnson Controls	United States Postal Service
K Mart Company	Weyerhaeuser Company
Komatsu Corporation	World Bank (United Nations)
Kraft, Inc.	Yazaki Corporation
Lansmont Corp.	Zenith Electronics

EXPERT WITNESS:

In addition served as a consultant to various law firms, corporations, and the U.S. Department of Justice, providing expert opinion and testimony in the areas of packaging machinery, damage and injury during transportation, design and evaluation of packages. Provided expert opinion in over one hundred cases.

PEER REVIEWED PUBLICATIONS IN TECHNICAL JOURNALS:

Singh, S. P., G. Burgess, J. Singh and M. Kremer, "Measurement and Analysis of Next Day Air Shipping Environment for Mid Sized and Light Weight Packages for DHL, FedEx and USPS", *Journal of Packaging Technology and Science*, John Wiley and Sons, Vol. 19, 2006.

Singh, S. P., G. Burgess, H. Lockhart and O. Boata, "Effect of Reduced Pressure and Vibration on Haz-Mat Packages for Liquids", *Packaging Technology and Science*, John Wiley and Sons, Vol. 19, 2006.

Singh, S. P., V. Chonhenchob, and J. Singh, "Life Cycle Inventory and Analysis of Re-Usable Plastic Containers and Display Ready Corrugated Containers Used for Packaging Fresh Fruits and Vegetables", *Journal of Packaging Technology and Science*, John Wiley and Sons, Vol. 19, 2006.

Chonhenchob, V., Y. Chantarasomboon, and S. P. Singh, "Quality Changes of Treated Fresh Cut Tropical Fruits in Rigid Modified Atmosphere Packaging Containers", *Journal of Packaging Technology and Science*, John Wiley and Sons, Vol. 19, 2006.

Singh, J., S. P. Singh, and G. Burgess, "Measurement and Analysis of US Truck Vibration for Leaf Spring and Air Ride Suspensions and development of Tests to Simulate these Conditions", Vol. 19, 2006.

Auras, R., S. P. Singh and J. Singh, "Performance Evaluation of PLA against Existing PET and PS Containers", *Journal of Testing and Evaluation*, Vol. 34, No. 6, American Society for Testing and Materials, 2006.

Rhim, J. W., A. K. Mohanty, S. P. Singh, and P. K. W. Ng, "Preparation and Properties of Biodegradable Multilayer Films Based on Soy Protein Isolate and Polylactide", *Industrial & Engineering Chemistry Research*, 45, 3059-3066 (2006).

Rhim, J.W., A.K. Mohanty, S. P. Singh, and P. K. W. Ng "Effect of Processing Methods on Performance of Polylactide (PLA) Films: Thermo-compression vs. Solvent Casting Methods", *Journal of Applied Polymer Science*, (In press, 2006)

Auras, R., S. P. Singh and J. Singh, "Evaluation of Oriented PLA Polymer v/s Existing PET and OPS for Frozen Food Service Containers", *Journal of Packaging Technology and Science*, John Wiley and Sons, Vol. 18, 207-216, 2005.

Singh, S. P., G. Burgess, and J. Singh, "A New Test Method and Pictorial Markings for Packages Containing Liquid Dangerous Goods in High Altitude Shipments" *Journal of Testing and Evaluation*, Vol. 32, No. 5, American Society for Testing and Materials, 2004.

Chonhenchob, V. and S. P. Singh, *Packaging Performance Comparison for Distribution and Export of Papaya Fruit*, *Packaging Technology & Science*, Vol. 18. 2004.

Chonhenchob V. and S. P. Singh, "Testing and Comparison of Various Packages for Mango Distribution" *Journal of Testing and Evaluation*, Vol. 32, No. 1, American Society for Testing and Materials, 2004.

Chonhenchob, V. and S. P. Singh, "A Comparison of Corrugated Boxes and Reusable Plastic Containers for Mango Distribution", *Packaging Technology and Science*, 16: 231-237, 2003.

Singh, S. P., G. Burgess, and J. Singh, "Package Performance Testing of Dangerous Goods in High Altitude

Shipments" *Packaging Technology and Science*, 16: 119-130, 2003.

Singh, S. P., G. Burgess, and J. Singh, "Package Performance Testing of Dangerous Goods in High Altitude Shipments" *HAZMAT Package and Shipper*, *Packaging Research International*, 25-31, March/April 2003.

Singh, S. P., G. Burgess, S. Pratheepthinthong and J. Singh, "Packaging Specifications for Corrugated Boxes with Heavy Flowable Products in Single Parcel Shipments" *JTEVA*, Vol. 29, ASTM, 2001.

Singh, S. P., G. Burgess, Z. Hays, "Measurement and Analysis of the UPS Ground Shipping Environment for Large and Heavy Packages", *JTEVA*, Vol. 29, ASTM, 2001.

Singh, S. P., and S. Sittipod, "Effects of Recording Parameters on Power Density Spectra in Transport Vibration Measurement", *JTEVA*, Vol. 29, No. 2, 173-191, ASTM, 2001.

Burgess, G., P. Singh and E. Knudsen, "Evaluation of the Gavarti Associates - Comprehensive Abrasion Tester", *JTEVA*, Vol. 28, No. 5, 420-423, ASTM, 2000.

Singh, S. P., and S. Pratheepthinthong, "Loss of Compression Strength in Corrugated Shipping Containers Shipped in the Single Parcel Environment", *JTEVA*, Vol. 28, No. 4, 242-248, ASTM, 2000.

Newsham, M.D., J. R. Giacini, and S. P. Singh, "Product/Package Interaction: Effect of Physical, Chemical, and Climatic Environments", *Journal of Testing and Evaluation*, Vol. 28, No. 2, 103-108, ASTM, 2000.

Singh, S. P., "Instability of Stacked Pallet Loads Due to Misalignment", *Journal of Testing and Evaluation*, Vol. 27, No. 5, 349-354, ASTM, 1999.

Singh, S. P., R. Walker, and D. Close, "Comparison of Returnable Paper and Plastic Corrugated Packaging Trays for the USPS", *Journal of Testing and Evaluation*, Vol. 27, No. 4, ASTM, 1999.

Singh, S. P., M. D. Newsham, and S. Pierce, "Distribution, Parcel Labels Pose Challenges for Drop Orientation", *Packaging Technology and Engineering*, Vol. 8, No. 4, 1999.

Singh, S. P., R. Walker, and P. Seehaver, "Comparison of International Mail Trays", *Packaging Technology and Science*, Vol. 11, 1-15, 1998.

Singh, S. P., and M. Gorzynski, "Effect of Vibration as a Cause of Leakage in Aluminum Beer Cans in Palletized Loads" *Journal of Testing and Evaluation*, Vol. 26, No. 4, 389-392, July, 1998.

Church, E. and S. P. Singh, "Focused Simulation Tests Provide Inroads for Reusable Containers" *Packaging Technology and Engineering*, Vol. 7, No. 2, 1998.

Sheehan, R., and S. P. Singh, "Data Analysis Techniques for Package Distribution Environment Data". *Test Engineering and Management*, 18-20, August, 1997.

Singh, S. P., and V. Syal, "Leakers as a Function of Closure Type in Gallon Size Plastic Bottles in Simulated Small Parcel Test Environment" *JTEVA*, ASTM, Vol. 24, No. 4, 241-245, July, 1996.

Singh, S. P., Cheema, "Measurement and Analysis of the Overnight Small Package Shipping Environment for Federal Express and United Parcel Service", *JTEVA*, ASTM, Vol. 24, No. 4, 205-211, 1996.

Singh, S. P., G. Burgess, and J. Lee, "Effect of Recycled Content on Corrugated Board Properties and Box Compression Strength", *Transpack 96*, *IOPP*, 10:1-17, February, 1996.

Rosenau, W. V., D. Twede, M. Mazzeo, S. P. Singh, "Returnable/Reusable logistical Packaging: A Capital Budgeting Investment Decision Framework", *Journal of Business Logistics*, Vol. 17, No. 2, 139-165, 1996.

Singh, S. P., and R. Walker, "Life Cycle Analysis of Nestable Wood and Plastic Pallets", *Journal of Plastic Film and Sheeting*, Technomic Publishing Co., Vol. 11, 312-325, October, 1995.

Singh, S. P., G. Burgess and Rojuckarin, "Test Protocol for Simulating Truck and Rail Vibration and Rail Impacts in Shipments of Automotive Engine Racks", *Packaging Technology and Science*, Vol. 8, 33-41, 1995.

Singh, S. P. and H. ElKhateeb, 'Evaluation of a Proposed Test Method to Measure Surface and Volume Resistance of Static Dissipative Packaging Materials', *Journal of Packaging Technology and Science*, John Wiley and Sons, Vol. 7, No. 6, 283-289, 1994.

Singh, S. P., V. Chonhenchob, and G. Burgess, 'Comparison of Various Loose Fill Cushioning Materials Based on Performance and Environmental Performance', *Journal of Packaging Technology and Science*, John Wiley and Sons, Vol. 7, No. 5, 229-241, 1994.

Singh, S. P., R. Stapleton, and G. Burgess, 'Reliability and Error Estimations of Mechanical Shock Recorders and Impact Indicators', *Journal of Packaging Technology and Science*, John Wiley and Sons, Vol. 7, No. 4, 187-194, 1994.

Rodriguez, H., S. P. Singh, and G. Burgess, 'Study of Lateral Shocks Observed During Fork Truck and Pallet Jack Operations for the Handling of Palletized Loads', *Journal of Packaging Technology and Science*, John Wiley and Sons, Vol. 7, No. 4, 205-211, 1994.

Singh, S. P., G. Burgess, and H. Lockhart, 'Proposed Method to Test the Relative Seal Strength of Plastic Bottles and its Use in Optimizing Sealing Parameters', *Journal of Packaging Technology and Science*, John Wiley and Sons, Vol. 6, No. 5, 271-276, 1993.

Singh, S. P., and M. Xu, 'Bruising in Apples as a Function of Truck Vibration and Packaging', *Applied Engineering in Agriculture, ASAE*, Vol. 9, No. 5, 455-460, 1993.

Singh, S. P., G. Burgess, J. Marcondes and J. Antle, 'Measuring the Package Shipping Environment in Refrigerated Ocean Vessels', *Journal of Packaging Technology and Science*, John Wiley and Sons, Vol. 6, No. 4, 175-181, 1993.

Singh, S. P. and G. Burgess, 'Effect of Internal Gas Pressure on the Compression Strength of Beverage Cans and Bottles', *Journal of Testing and Evaluation*, ASTM, Vol 21, No. 2, 129-131, 1993.

C. W. Hall, S. P. Singh and G. Burgess, 'Use of a Proposed Test Procedure for Quantifying the Triboelectric Charging Propensity of Packaging Films'. *Journal of Testing and Evaluation*, ASTM, Vol. 21, No.1, 57-61, 1993.

Singh, S.P., 'Media for Shock and Vibration - Environmental Concerns', *Journal of Packaging India, IIP*, Vol 25, No. 4, 25-31, 1992.

Singh, S. P. and J. Marcondes, 'Vibration Levels in Commercial Truck Shipments as a Function of Suspension and Payload', *Journal of Testing and Evaluation*, ASTM, Vol 20, No. 6, 466-469, 1992.

Marcondes, J. and S. P. Singh, 'Use of Road Roughness on to Predict Vertical Vibration and Package Design', *Advances in Electronic Packaging*, Vol. 2, 999-1004, American Society of Mechanical Engineers, 1992.

Singh, S. P. and T. Voss, 'Drop Heights Encountered in the United Parcel Service Small Parcel Environment in the United States', *JTEVA, ASTM*, Vol 20, No. 5, 382-387, 1992.

Singh, S. P., 'Its Time to Examine Your Plants Unit Load Practices', *International Industrial Engineering Conference Proceedings*, 287-292, Institute of Industrial Engineers, 1992.

Singh, S. P., G. Burgess and M. Xu, 'Bruising of Apples in Four Different Packages Using Simulated Truck Vibration', *Journal of Packaging Tech. and Science*, John Wiley and Sons, Vol. 5, 145-150, 1992.

Graesser, L., S. P. Singh and G. Burgess, 'A Performance Study for Two Portable Data Recorders Used to Measure Package Drop Heights', *Journal of Packaging Technology and Science*, John Wiley and Sons, Vol. 5, 57-61, 1992.

Singh, S. P., N. Charnnarong and G. Burgess, 'A Comparison Between Various Package Cushioning Materials Based on Shock Transmission Versus Material Used', *Institute of Packaging Professionals Technical Journal*, 28-36, Winter 1991.

Singh, S. P., 'New Package System for Fresh Berries'. *Journal of Packaging Technology and Science*, John Wiley and Sons, Vol. 5, 3-10, 1992.

Marcondes, J., M. Snyder and S. P. Singh, 'Predicting Vertical Acceleration in Vehicles Through Road Roughness Information', *Journal of Transportation Engineering*, Vol 118, No. 1, 33-49, ASCE, 1992.

Singh, S. P., G. Burgess and M. Langlois 'Compression of Single Wall Corrugated Shipping Containers Using Fixed and Floating Platens', *Journal of Testing and Eval.*, ASTM, Vol. 20, No. 4, 318-320, 1992.

Singh S. P., J. Antle and G. Burgess, 'Comparison Between Lateral, Longitudinal and Vertical Vibration Levels in Commercial Truck Shipments', *Journal of Packaging Technology and Science*, John Wiley and Sons, Vol. 5, 71-75, 1992.

Pierce, C., S. P. Singh and G. Burgess, 'A Comparison of Leaf-Spring to Air Cushion Trailer Suspensions in the Transportation Environment'. *Journal of Packaging Technology and Science*, John Wiley and Sons, Vol 5, 11-15, 1992.

Singh, S. P., A. Srivastava and J. Steffe, 'Vibration Induced Settling of a Sphere in a Herschel-Bulkley Fluid', *Journal of Food Engineering*, Elsevier Science Publishers. Vol 13, 181-197. 1991.

Singh, S.P., B. Crofts and G. Burgess, 'The Effect of Handling on the Compression Strength of Corrugated Fiberboard Containers'. *Journal of Testing and Evaluation*, Vol 19, No. 5, 374-378, ASTM, 1991.

Singh S. P., 'Solid Waste Reduction for Automotive Instrument Clusters through Product Redesign and Returnable Packaging', ASME Paper 91-WA/EEP-6, ASME, 1991.

Mackson J. and S. P. Singh, 'The Effect of Temperature and Vibration on Emulsion Stability of Mayonnaise in Two Different Package Types'. *Journal of Packaging Technology and Science*, John Wiley and Sons, Vol 4, 81-90, 1991.

Singh S. P. and W. Larson, 'Vibration Simulation of Transportation Environment to Predict Failure in Portable Tanks'. *Journal of Packaging Technology and Science*, John Wiley and Sons, Vol 3 No.2, 1990.

Marcondes, J., S. P. Singh and M. Snyder, 'A Method to Predict Vertical Acceleration in Truck Shipments Using Road Roughness Information', *Institute Of Packaging Professionals Technical Journal*, Fall 1990.

Totten T., G. Burgess and S. P. Singh, 'The Effects of Multiple Impacts on the Cushioning Properties of Closed Cell Foams'. *Journal of Packaging Technology and Science*, John Wiley and Sons, Vol 3 No.2, 1990.

Marcondes, J., J. Waldeck, G. Burgess and S. P. Singh, 'Applications of High Speed Motion Analysis to Measure Shock in Cushioned Drops', *Journal of Packaging Technology and Science*, John Wiley and Sons, Vol 3, 1990.

Singh, P. Update on Vertical Vibration Levels in Truck Shipping Environments. *Test Engineering and*

Management, Vol. 10, 1989.

Singh, P. and J. Marcondes. Shock, Vibration and Temperature Distribution in Refrigerated Truck Shipments of Food Products. Arquivos de Biologia e Tecnologia, Brazil, Vol 32-4, 12, 1989.

Singh, P. and J. Marcondes. Accelerated Lab Simulation of Truck Transport Environment Using Random Vibration. Paper #89-WA/EEP-17, ASME.

Singh, P. and D. Young. Measurement and Analysis Techniques to Simulate the Shipping Environments. Paper #88-WA/EEP-18, ASME.

Hoshall, G. and P. Singh. New Miniature Computerized Sensor for Tri-Axial Shock Recording. Paper-#88-WA/EEP-19, ASME.

Marcondes, J., P. Singh, and G. Burgess. Dynamic Analysis of a Less than Truck Load Shipment. Paper #88-WA/EEP-17, ASME.

BOOK CHAPTERS:

Contributing author in the following text books:

"Damage Reduction to Food Products During Transportation and Handling", Handbook of Food Products, 2006.

"Packaging Forensics" L & J Publishing Company, 2000.

"Transport Packaging" Tool and Manufacturing Engineers Handbook, Society of Manufacturing Engineers, 1997.

"Distribution Packaging Technology Handbook", Institute of Packaging Professionals, 1995.

"Progress in Material Handling Research", Material Handling Institute of America, 1993.

TECHNICAL REPORTS FOR FEDERAL AND INTERNATIONAL AGENCIES:

Pharmaceutical Industry Bottle/Closure/Liner Leaker Study. Federal Aviation Administration, 2003-04.

New Packaging System for Large Caliber Munitions, US Navy and Luna Innovations, 2003-04.

Sustainable Packaging for Apparel and Shoes, Nike Corporation, 2003.

Reusable Plastic Pallets for Ford Engines and Transmissions, GE Plastics, Ford Motor Company and Robinson Industries, 2003.

Performance Evaluation of New IR Activated Adhesive System for Corrugated Boxes, National Starch and Chemical Company, 2003.

Development of New International Postal Tray, International Post Corporation, Brussels, Belgium, 2001.

Review of Bio-Plex Project for Food Production and Packaging for Advanced Life Support System (Mission to Mars) NASA, Johnson Space Center, Houston, 2000.

Review Specifications for Vertical Form Fill Seal Packaging Machines for China Iodine Deficiency Disorder Control Project, Industry and Energy Department, The World Bank, Washington D.C., 1996.

Comparison of International Mail Trays, USPS Engineering, Material Handling Office, United States Postal Service, L'Efant Plaza, Washington D.C., 1996.

Paper and Plastic Corrugated Mail Tray Endurance Test, USPS Engineering, Material Handling Office, United States Postal Service, L'Efant Plaza, Washington D.C., 1995.

Pallet Life Cycle Test, USPS Engineering, Material Handling Office, United States Postal Service, L'Efant Plaza, Washington D.C., 1995.

Technical Procurement Guidelines for Performance and Evaluation of Form Fill Seal Machines and Package Systems, Report Prepared for the World Bank Group, United Nations, Washington D.C., 1995.

Feasibility Study for Using a Containerless ISO System to Transport Marine Corps Material, Contract No. N47408-93-C-7333, U. S. Navy, Port Hueneme, CA, 1994.

Assessment of Product Physical Distribution at AMCCOM Maintenance and Storage Facilities, Technical Report #DAAA08-86-D-0205, U.S. Army (IBEA), Rock Island Arsenal, IL, 1989.

Packaging Design Evaluation at Picatinny Arsenal, Technical Report #B736, U.S. Army (Ammunition Logistics), Picatinny Arsenal, 1988.

Assessment of Packout Procedures and Methodology at Pine Bluff Arsenal. Technical Report #B723, U.S. Army (EBEA), Pine Bluff Arsenal, 1987.

CONFERENCE PAPERS IN PROCEEDINGS:

Presented over five hundred talks at various regional, national, and international meetings including the following:

E. Joneson and Singh, S. P., Developing Safe Loading and Damage Reduction Methods for Less than Truck Load Shipments, 15th International IAPRI World Conference on Packaging, International Association of Packaging Research Institutes, Tokyo, Japan, 2006. Singh,

S. P. and Y. Paek, New Pressure Sensitive Device to Measure and Predict Drops, 15th International IAPRI World Conference on Packaging, International Association of Packaging Research Institutes, Tokyo, Japan, 2006.

Singh, J., S. P. Singh and P. Gaur, Measurement, Analysis and Comparison of Express and Priority Parcel Shipping Environment of United States Postal Service with Commercial Carriers, 15th International IAPRI World Conference on Packaging, International Association of Packaging Research Institutes, Tokyo, Japan, 2006.

Singh, J. and S. P. Singh, Performance Comparison of Thermal Insulated Packaging Systems for Single Parcel Shipments, 15th International IAPRI World Conference on Packaging, International Association of Packaging Research Institutes, Tokyo, Japan, 2006.

Singh, S. P. J. Singh and E. Joneson, Measurement and Analysis of Global Truck, Rail and Parcel Shipments, 15th International IAPRI World Conference on Packaging, International Association of Packaging Research Institutes, Tokyo, Japan, 2006.

Singh, J., K. Vorst, S. P. Singh and M. Lao, The Relevance of Drop Tester Accuracy, 15th International IAPRI World Conference on Packaging, International Association of Packaging Research Institutes, Tokyo, Japan, 2006.

Singh, S. P. and Y. Paek, New Pressure Sensitive Device to Measure and Predict Drops, 15th International IAPRI World Conference on Packaging, International Association of Packaging Research Institutes, Tokyo, Japan, 2006. Singh, S. P. and Y. Paek, New Pressure Sensitive Device to Measure and Predict Drops, 15th International IAPRI World Conference on Packaging, International Association of Packaging Research

Institutes, Tokyo, Japan, 2006.

Singh S. P. Update on Packaging and E-Commerce Trends in the United States, National Conference on Order Fulfillment, Orlando, Florida, 2006.

Singh S. P. Distribution Packaging Trends for Global Supply Chain, Packaging Design and Brand Slam Summit, West Palm Beach, Florida, 2006.

Singh S. P. and E. Joneson, Video and Measurement of Dynamics of a Less Than Truck Load Shipment, Dimensions 06, International Safe Transit Association, 2006.

Singh J. and S. P. Singh, Measurement and Analysis of the Truck and Rail Shipping Environment in India, Dimensions 06, International Safe Transit Association, 2006.

Singh, S. P. An Update on Packaging and Distribution for the Global Supply Chain, Presented as one-day seminar in Bangkok, Thailand, 2006.

Singh, S.P. and E. Joneson, Dynamics of Less than Truck Load Shipments, Annual NIPHLE Conference, Baltimore, 2006.

Singh, S. P. and R. Auras, Developing Package Compostability Test Methods for Bio-based Materials, Annual NIPHLE Conference, Stockton, California, 2005.

Singh, S. P., J. Singh and E. Joneson, Global Distribution Environment Measurement Project, IAPRI Conference, Sao Paulo, Brazil, 2005.

Singh, S.P., M. McCartney and J. Singh, Developing RFID Technology for Perishables Supply Chain, IAPRI Conference, Sao Paulo, Brazil, 2005.

Singh, S. P. and J. Singh, Pictorial Markings for Packaging to Prevent Damage and Liability, IAPRI Conference, Sao Paulo, Brazil, 2005.

V. Chonhenchob and J. McLaughlin, Fresh Cut Fruit Packaging in Rigid PLA and PET Containers, IAPRI Conference, Sao Paulo, Brazil, 2005.

Singh S. P. and S. J. Risch, Update on RFID Technology and Global Distribution Measurement for Packages, International Packaging Conference, CETEA, Sao Paulo, Brazil, 2005.

Singh S. P. and J. McLaughlin, Package Testing for Real World Conditions, Dangerous Goods by Air 2004, International Air Transport Association, Prague, 2004.

Singh S. P. Update on E-Commerce Trends in the United States, International E-Bizz Conference, Copenhagen, Denmark, 2004.

Singh S. P., G. Burgess, and C. Mingerink, Developing Test Methods for Long/Light Weight Packages in the Single Parcel Shipping Environment, Dimensions 04, International Safe Transit Association, 2004.

J. Singh, S. P. Singh and G. Burgess, Measurement and Analysis of the Small and Light Weight Parcel Shipping Environment, Dimensions 04, International Safe Transit Association, 2004.

Goodwin, D., and S. P. Singh, The Need to Define Pre-Set Instrumentation Requirements for the Measurement of Various Parameters of the Distribution Environment, 14th IAPRI World Conference on Packaging, Stockholm, Sweden, 2004.

Singh, S. P., J. Singh and R. Auras, Package Sustainability – Performance Evaluation of New Bio-degradable (PLA) with Existing PET and OPS Containers for Food Service, 14th IAPRI World Conference on Packaging, Stockholm, Sweden, 2004.

Singh, J. and S. P. Singh, Measurement and Analysis of the Small and Light Weight Parcel Shipping Environment, 14th IAPRI World Conference on Packaging, Stockholm, Sweden, 2004.

Chonhenchob, V. and S. P. Singh, Packaging Performance Comparison for Distribution and Export of Papaya Fruit, 14th IAPRI World Conference on Packaging, Stockholm, Sweden, 2004.

Singh, S. P., and J. Singh, Packaging Challenges for Parcel Delivery, Parcel Expo and Conference, Chicago, 2004.

Singh S. P., Packaging Innovations, Distribution Challenges for Food Packaging, Presented at Kasetsart University, Thailand, 2004.

Singh S. P., Packaging Innovations, Distribution Challenges for Food Packaging, Presented at Kasetsart University, Thailand, 2004.

Singh S. P. Package Test Requirements for Long and Light Weight Packages for Parcel Delivery, Dimensions 04, International Safe Transit Association, 2004.

Singh, S. P., Performance Testing and Evaluation of Plastic Pallets and Reusable Plastic Containers, Paper presented at Reusable Plastic Pallet and Container Coalition Annual Conference, Dallas, 2003.

Singh, S.P., New Test Methods to Evaluate Performance of Reusable Plastic Pallets and Containers, Paper presented at the International Symposium on Packaging, IAPRI, Valencia, Spain, 2003

Singh, S.P., G. Burgess, and J.Singh, New Developments in Safe Package Shipment of Dangerous Goods in Air Transport, Proceedings of Air Transport Safety Research ATRS 2003 Conference, France, 2003.

Singh, S.P., G. Burgess, and J.Singh, Prediction Long-Term Box Compression Strength, Proceedings of Dimensions 03, International Safe Transit Association, 2003.

Singh, J., P. Singh and G. Burgess, Loss of Box Compression Strength due to Creep, Proceedings of NIPHLE Annual Conference, National Institute of Packaging and Handling Engineers, 2003.

Mulukutla, P., S. P. Singh, A. Mohanty, M. Misra, L. Drazal, New Eco-Friendly Bio-composite Material for Returnable Packaging Containers - Proceedings of the American Society for Composites 18th Technical Conference, 2003.

Singh, S.P., Designing and Optimizing Packaging, Parcel Forum, Chicago, Oct, 2003.

Singh, P., Effects of High Altitude on Package Integrity, Proceedings of Dimensions 02 Conference, International Safe Transit Association, 2002.

Singh, P., Logistical Packaging Challenges for E-Commerce of Fresh Produce, Proceedings of Packaging Clean and Green Conference, Australian Institute of Packaging, Melbourne, Australia, March 2002.

Singh, J, Singh, P., and Burgess, G., Package Performance for Hazardous Materials in High Altitude Shipments, WorldPak 2002, International Packaging Conference Proceedings, ISBN 1-158716-1540, CRC Press, June 2002.

Singh, P., and Singh, J., E- Commerce Distribution of Fresh Produce and Flowers, WorldPak 2002, International Packaging Conference Proceedings, ISBN 1-158716-1540, CRC Press, June 2002.

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Corrugated Packaging Specifications - Challenges of Real Life Shipments, International Conference on Creep and Fatigue Effects on Corrugated Board, Melbourne, Australia, 2001.

Packaging Specifications for Heavy Packages in UPS Shipping Environment, Dimension 01, Orlando, International Safe Transit Association, 2001.

Measurement of the UPS Ground Shipping Environment for Large and Heavy Packages, ISTACON 2000, Orlando, 2000.

Distribution Challenges for E-Commerce Shipments, Packaging for E-Commerce, San Francisco, 2000.

Reusable Plastic Containers for Fresh Produce, TRANSPAK 2000, Institute of Packaging Professionals, Austin, Feb, 2000.

Design Requirements for RPC's for Fresh Produce, UNITED 2000, United Fresh Fruit and Vegetable Conference, Phoenix, Feb, 2000.

Stability of Stacked Pallet Loads, 11th International IAPRI Conference on Packaging, Singapore, July, 1999.

Packaging Education: Training Professionals for the XXI Century, International Packaging Seminar, Sao Paulo, Brazil, 1999.

Development of a New Test Method to Test Reusable Intermediate Bulk Containers, ISTACON'99, Orlando, April, 1999.

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A System Analysis of Various IBC Types, IBC-USA 99, New Orleans, April, 1999.

Stability of Stacked Pallet Loads, TRANSPAK 99, Institute of Packaging Professionals, Orlando, Feb, 1999.

How to Protect Material for Shipment, PROMAT 99, Material Handling Institute, Chicago, Feb, 1999.

Returnable Containers for Fresh Produce, UNITED 99, United Fresh Fruit and Vegetable Growers, San Diego, Feb, 1999

Best Practice Packaging for Physical Protection, Creating and Developing Innovative Packaging, MSU Seminar, Phoenix, January, 1999.

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Comparison of Expanded Polystyrene and Other Cushioning Materials for Environmental and Protection Capabilities, Proceedings of the Foamed Polystyrene Alliance Conference, New Orleans, February, 1997.

Life Cycle Testing of Plastic and Presswood Pallets for the United States Postal Service, 10th IAPRI World Conference on Packaging, Melbourne, Australia, 1997.

Comparison of Reusable Plastic and Paper Corrugated for Packaging, 10th IAPRI World Conference on

Packaging, Melbourne, Australia, 1997.

Comparison of Plastic and Wood Pallets, Transpack 97, Institute of Packaging Professionals, Herndon, VA, 1997.

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Effect of Recycled Content on Corrugated Board Properties and Box Compression Strength, Proceedings of the 18th IAPRI Symposium, Helsinki, Finland, 1996.

Future Trends in Export Packaging Requirements, Proceedings of the International Conference on Packaging and Globalization, Bombay, India, 1996.

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Use of Computer Aided Multimedia in Teaching Packaging Processes at the University Level, Proceedings of the 9th IAPRI Conference, Brussels, Belgium, 1995.

Role of Dynamic Testing for Reusable/Returnable Containers and Racks for the Automotive/Manufacturing Industry, Proceedings of the 9th IAPRI Conference, Brussels, Belgium, 1995.

Source Reduction Through the Use of Steel Racks for Part Shipments in the Automotive Industry, Proceedings of the Annual Safe Transit Conference, ISTA, Clearwater, FL, 1995.

Comparison of New Packaging Materials for Protective Cushioning and Environmental Concerns, Proceedings of the AIP (Australian Institute of Packaging) Conference, Sydney, Australia, 1995.

Future of Plastic Pallets in the Grocery Industry, Proceedings of the 1995 Annual National Wood Pallet and Container Association Pallet Conference, St. Louis, MO, 1995.

Current Trends of Palletization and Packaging in the United States, Proceedings of the Canadian Pallet Conference, Vancouver, Canada, 1995.

Packaging Materials, Options and Developments. Paper presented at "Packaging - The Future and Challenge" International Conference, Auckland, New Zealand, October, 1994.

Designing Packages for the Overnight Shipping Environment. Paper presented at the 8th International IAPRI Packaging Conference, Sao Paulo, Brazil, June, 1993.

Environmental Impact of Packaging Cushioning Materials. Presented at the Pack Expo Conference, Chicago, November, 1992.

Protective Media for Shock and Vibration. Paper presented at the Industrial Packaging Conference, New Delhi, India, October, 1992.

Bruising of Apples as a Function of Truck Vibration and Packaging. Paper presented at 1991 Summer Meeting of ASAE (92-6036), Charlotte, June, 1992.

Measuring the Dynamic Environment of Automated Package Sortation Equipment Used in the United Parcel System. Paper presented at the 1992 International Material Handling Research Colloquium, Milwaukee, June, 1992.

Optimizing Pack Design for Distribution. Paper presented at World Packaging Congress, Seville, Spain, January, 1992.

Transportation and Military Packaging. Paper presented at the Colloquium on Current Concerns in Packaging for Management, San Diego, 1992.

New Package System for Fresh Strawberries and Raspberries. Paper presented at 1991 Summer Meeting of ASAE (91-6017), Albuquerque, 1991.

Vibration Levels in Commercial Shipments. Paper presented at 1991 Summer Meeting of ASAE (91-6016), Albuquerque, 1991.

What Can Robotic Assembly do for You? Singh, S.P. and H. Lockhart, Food Packaging Technology International, 45-46, 1991.

Packaging: A Quiz for the Automotive Industry. Twede, D., R. LaMoreaux and S. P. Singh, Action Line, September, 1990.

Correlating Real Life Shipments with Lab Testing. Presented at the Pack Expo Conference, Chicago, 1990.

Recycling and Disposal Issues of Pallets. Paper presented at the NWPCA Annual Meeting, Toronto, 1990.

Vibration Levels in Refrigerated Truck Shipments. Presented at the Refrigerated Transportation Foundation Annual Meeting, Baltimore, August, 1990.

Measuring the Truck Transportation Environment in United States. Paper presented at the Sixth Annual Conference on Distribution Packaging and Handling. San Francisco, 1989.

Environmental Measurement and Simulation, Singh, P. Paper presented at SPHE Conference, Traverse City, April, 1988.

Vibration Induced Settling of Particles in Herschel-Bulkley Fluids. Singh, P. and G. Burgess. Paper presented at 1987 Winter Meeting of ASAE (87-6527), Chicago, 1987.

Vibration Simulation of Insecticide Tanks. Singh, P. and C. Ritchie. Paper presented at 1987 Winter Meeting of ASAE (87-6528), Chicago, 1987.

Computer Hardware: Availability and Applications in Packaging. Presented at SPHE Conference, East Lansing, September, 1986.

Future Trends of Wood Containers and Pallets. Presented at Annual Meeting of Canadian Pallet and Container Association, Cambridge, September, 1986.

Role of Plastic Containers/Pallets in the Automotive Industry. Presented at Annual Meeting of National Wood Pallet Container Association, Toronto, June, 1986.

Effect of Multiple Drops in Damage Boundary Curves. Singh, P. and G. Burgess. Presented at the 4th International Conference on Packaging, East Lansing, MI, 1985.

Design Criteria and Dynamic Behavior of Premolded PE Cushions. Singh, P. and R. Bonlender. Presented at the 4th International Conference on Packaging, East Lansing, MI, 1985.

Modeling and Simulation of Packaging Lines Using Computer Aided Techniques. IBM, Rochester, MN, 1984.

VIDEO TAPES FOR EDUCATION:

Designing Safe Loads for LTL Shipments. Prepared for Overnite Transport, 2006.

Environmental Impact of Popcorn as a Cushioning Material. Prepared for National Television News Release through MSU Outreach, 1991.

Move Your Freight the ABF Way. Prepared for ABF Freight Inc. Principle Coordinator of the project, 1989.

Freight Movement Inside Trailer. Prepared for Yellow Freight Inc. Supervised with other faculty for Packaging Dynamics Sections, 1988.

Magicians of Packaging. Participated for the Environmental Measurement Section. Prepared at School of Packaging by Pi Kappa Gamma, 1988.

Future of Wood Pallet. Singh, P. Prepared for the National Wood Pallet Container Association, Washington, DC, 1986.

SEMINAR MANUALS:

1. Fundamentals of Shocks and Vibration. G. Burgess and P. Singh. Annual MSU School of Packaging Seminar.
2. Chapter on Distribution Packaging. G. Burgess and P. Singh.
* Principles of Packaging for Supervisors Course and PACTECH Seminar
3. Packaging/Unitization Seminar. P. Singh.
4. Automotive Packaging Seminar. Transportation Environment, Pallets.
5. Electronic Packaging and Advance Dynamics.
6. Fresh Produce (Vegetables and Fruit) Distribution and Packaging.

PROFESSIONAL ASSOCIATIONS AND POSITIONS HELD:

ASAE (American Society of Agricultural Engineers)
Chairman, Packaging Committee FPE 711, 1987-1990.

ASME (American Society of Mechanical Engineers)
Chairman, Protective Packaging Committee, 1991-1995.

European Committee for Standardization, CEN TC 331/WG4, Technical Expert, 1997-2000.

ASTM (American Society for Testing and Materials)
Chair Division 1, D-10 Packaging Committee
Member (D-10). Vice Chairman (D10.15) Fragility Assessment Committee. Chairman, Task Group on Reusable Pallets and Packaging.

IAPRI Board – International Association of Packaging Research Institutes

IOPP (Institute of Packaging Professionals), Member.

ISTA Board – International Safe Transit Association

NIPHLE Member – National Institute of Packaging Handling and Logistics Engineers

National Forensic Center, Member.

Pi Kappa Gamma (Honorary Packaging Fraternity), Advisor.

Packaging Alumni Association, Member, Board of Directors.

Produce Marketing Association – Chair - Packaging Standardization Task Group

National Society of Safety Engineers - Member

PACKAGING TEST PROJECTS:

In addition Dr. Singh has written over a hundred reports on various studies done to test and evaluate packaging systems for various companies including the following:

Abbott Laboratories	Kellogg's Company
Abitibi Price	Kraft, Inc.
Amway Corporation	Laserfile Compact Disc
Anheuser Busch	Libbey Glass
Appleton Papers	Menasha Paper
Arco Chemical	Merillat
Association of American Railroads	Miller Brewery
Avon Company	Mitsubishi
AC Delco	Morton Grove Pharmaceutical
Beatrice/Hunt-Wesson	ODL (Glass Doors) Inc.
Becton Dickinson Company	Orbis Menasha
Buckhorn	Owens Illinois
Chevron	Ortho Pharmaceutical
Chiquita	Overnite Transport
Clorox Company	Pepsi Bottling Group
Coca Cola Company	PPG Industries
Colgate Palmolive	Proflowers
Con Agra Foods	Purepak
Coors Brewery	QVC Inc
Dow Chemical	SCA Packaging
Dupont	Sealed Air Corporation
Eastman Kodak Company	Simmons Mattress Company
Ethan Allen	Sonoco Products Company
Faygo	Stone Container Corporation
Ford Motor Company	Stroh Brewery
Frito Lay, Inc.	Trienda Corporation
General Motors	Tuscarora Plastics
General Electric Co.	Uncle Ben's Inc.
General Foods	United States Dept. of Agriculture
Gerber Foods	United States Postal Service
Haworth	Wood Mode
Herman Miller	Wyeth-Ayerst Laboratories
Hewlett Packard	Xerox
International Honeycomb	Yellow Freight System
Johnson Controls	Zenith Data Systems

INTERNATIONAL AGENCIES AND INSTITUTES:

In addition served as a consultant and advisor to the following universities and institutes in training and developing packaging curriculum at graduate and postgraduate level and served as examiner at the following:

- California Polytechnic University, San Luis Obsipo, CA
- Copenhagen Business School, Copenhagen, Denmark
- Danish Technological Institute, Copenhagen, Denmark
- Indian Institute of Packaging, India
- Japan Packaging Institute. Tokyo, Japan
- Kasetsart University, Bangkok, Thailand
- Nanyang University, Singapaore
- Massey University, Palmerston North, New Zealand
- Sheffield University, Sheffield, United Kingdom
- Victoria Institute of Technology, Melbourne, Australia