#### JAMES K. GOOD

Emeritus Professor Previously: Professor & Noble Foundation Chair Director, Web Handling Research Center Associate Head Mechanical & Aerospace Engineering Oklahoma State University Stillwater, Oklahoma 74078 Email: james.k.good@okstate.edu PH: 405-744-5900 FAX: 405-744-7873



#### ACADEMIC BACKGROUND

Ph.D., Mechanical Engineering, Oklahoma State University, 1983 M.M.E., Mechanical Engineering, Oklahoma State University, 1978 B.S.M.E., Mechanical Engineering, Oklahoma State University, 1977

#### **MAJOR AREAS OF INTEREST**

Solid Mechanics Finite Element Analysis Experimental Stress Analysis Dynamics Instrumentation

#### **SPECIALTIES**

Web Handling - The Mechanics of Transporting Thin Media through Process Machinery

#### **PROFESSIONAL EXPERIENCE**

- Associate Head, School of Mechanical and Aerospace Engineering, Oklahoma State University, Stillwater, Oklahoma, 2017-2019.
- Director, Web Handling Research Center, Oklahoma State University, December 2015-2019.
- Professor, School of Mechanical and Aerospace Engineering, Oklahoma State University,

Stillwater, Oklahoma, August 1992-present, Associate Professor, August 1987-July 1992; Assistant Professor, August 1983-July 1987; Instructor, August 1980-July 1983.

- Structural Analyst, Cessna Aircraft, Wallace Division, Wichita, Kansas, January 1979-August 1980.
- Consulting Engineer, Boyd and Associates, Inc., Stillwater, Oklahoma, January 1978-January 1979.
- Structural Analyst, Cessna Aircraft, Wallace Division, Wichita, Kansas, June 1977-December 1977.

- Structural Analyst, Rockwell International, Inc., North American Aircraft, Tulsa, Oklahoma, May 1977-June 1977.
- Design and Draftsman, C-E NATCO, Tulsa, Oklahoma, May 1976-September 1976.

Engineering Aide, U.S. Army Corps of Engineers, Tulsa District, Tulsa, Oklahoma, May 1975-September 1975.

#### **PROFESSIONAL AFFILIATIONS & SERVICE**

Fellow, American Society of Mechanical Engineers, #436873. Served in the Central Oklahoma Section as Secretary in 1986, Vice-Chairman in 1987, Chair in 1988, Past Chair and Chair of Nominating Committee in 1989. Program Chairman, <u>A Symposium on Web Handling - 1992</u>, AMD- Vol. 149, Applied Mechanics Division of ASME.

Fellow, TAPPI, #873140.

Registered Professional Engineer in the State of Oklahoma since 1985, PE 14102

- Program Chairman, International Conference on Web Handling, 1991, 1993, 1995, 1997, 1999, 2001, 2003, 2005, 2007, 2009, 2011, 2013 and 2015.
- Chair, Undergraduate Advisory Committee, and member of the Aerospace Advisory Committee and the Laboratory Committee within the School of Mechanical & Aerospace Engineering at OSU, 1999-present.
- Associate Head, serve at the pleasure of the MAE Head in support of degree accreditation and other departmental needs, 2015-present.

# HONORS

- Fellow, TAPPI, the Technical Association for the Pulp and Paper Industry, 2016.
- 2013 OSU Regents Distinguished Research Award
- \_ In 2007 the students of MAE awarded me the "Best Teacher" award in MAE.
- Fellow, American Society of Mechanical Engineers, 2002
- Noble Foundation Chair, 2002-present
- Recipient, 2001 Thomas Busch Technical Award of the Technical Association of the Pulp and Paper Industry
- \_ Noble Foundation Professorship, 1999-2001
- Recipient, 1986 R. E. Peterson Award of The Society for Experimental Mechanics
- Recipient, 1994 Halliburton Outstanding Young Faculty Member Award
- Noble Research Fellow, 1987-1999

# **GRADUATE ADVISOR**

- \_ 22 PhD students
- 101 MSME students

# **RESEARCH EXPERIENCE**

- Principal Investigator, SNM: Roll-to-Roll Nanoimprinting to Manufacture Large Area Metasurfaces for Photonics and Optoelectronics, National Science Foundation, September 2016 – September 2020. Co-Investigators include D.A. Lucca of OSU, J. Guo of University of Michigan and P.R. Pagilla of TAMU.
- Principal Investigator, Lamination Mechanics, Web Handling Research Center, Oklahoma State University, September 2017-2019.
- Principal Investigator, Winding Mechanics, Web Handling Research Center, Oklahoma State University, December 1986-2019.

- Principal Investigator, Wrinkling of Webs During Transport, Web Handling Research Center, Oklahoma State University, December 1985-2019.
- Principal Investigator, Radial Stresses in Wound Rolls due to the Presence of a Nip, Web Handling Research Center, Oklahoma State University, June 1989-2016.
- Co-Principal Investigator, Acquisition of a High Speed Digital Camera for Advanced Materials, National Science Foundation, 2004-2005.
- Principal Investigator, Analysis of Winding Thick Gage Aluminum Rolls, Aluminum Company of America, 2002-2003.
- Principal Investigator, Wrinkling Research in Lamination, Dupont, 1998-2000.
- Principal Investigator, Contact Stresses in Wound Rolls due to the Presence of a Nip, Kimberly-Clark, 1989-1990.
- Principal Investigator, Development of a High Speed Web Line, National Science Foundation, September 1994-1996, K.N.Reid and Alan Tree were Co-investigators.
- Principal Investigator, Nip Roller Induced Stresses, Web Handling Research Center, Oklahoma State University, December 1993-1998.
- Principal Investigator, "An Integrated Course in Manufacturing Processes and Product Design," NSF, December 1988-1989, D. Lucca was a Co-investigator.
- Co-Principal Investigator, Stress Distributions in Webs Due to Spreading Devices, Web Handling Research Center, Oklahoma State University, December 1985-1991.
- Principal Investigator, Dynamic Analysis of Read/Write Heads Above a Winchester Disk Surface, July 1987-May 1988.
- Principal Investigator, NSF-Equipment Grant for a Modal Analysis System, September 1985-February 1987.
- Principal Investigator, Design of Read/Write Heads on Floppy Disk Media, Magnetic Peripherals Inc., Oklahoma City, Oklahoma, September 1983 to January 1985.
- Co-Investigator, Dynamic Analysis of Floppy Disks, Magnetic Peripherals Inc., Oklahoma City, Oklahoma, May 1981 to December 1982.

# PUBLICATIONS, BOOKS, INVITED/KEYNOTE LECTURES & REPORTS

# **Peer Reviewed Journal Publications**

- 1. "A summary of boundary conditions to govern web lateral movement in roll-to-roll process machines," Y. Ren, J. Shi, S. Pan, J. K. Good, Mechanics of Materials and Structures, accepted for publication August 2021.
- 2. "Lamination Model Predicting Curl in Roll-to-Roll Manufacturing," M. Jambhapuram, J. K. Good, A. Azoug, Forces in Mechanics, accepted for publication July 2021.
- 3. "Anticlastic bending impact on webs transiting rollers," J. Shi, S. Pan, R. E. Markum, J. K. Good, Mechanics Research Communications, January 2021.
- 4. "Viscoelastic web curl due to storage in wound rolls," S. Pan, A. Azoug, and J. K. Good, Tappi Journal, V19, n7, July 2020.
- 5. "Residual Winding Stresses Due to Spatial Web Thickness Variation," J. K. Good, C. Mollamahmutoglu, R. Markum and J. W. Gale, ASME Journal of Manufacturing Science and Engineering, V139, n3, March 2017.
- "Modeling the influence of web thickness and length imperfections resulting from manufacturing processes on wound roll stresses," C. Mollamahmutoglu and J.K. Good, CIRP Journal of Manufacturing Science and Technology, V8, January 2015, pp. 22-33.
- 7. "Pressures on Webs in Wound Rolls due to Winding and Contact," C. Mollamahmutoglu, S. Ganapathi and J.K. Good, TAPPI Journal, V13, N2, February 2014, pp. 41-50.

- 8. "Boundary Conditions that Govern the Lateral Behavior of Flexible Webs in Roll to Roll Process Machines," B. Fu, A. Reddy, S. Vaijapurkar, R. Markum and J. K. Good, ASME Journal of Computational and Nonlinear Dynamics, V9, January, 2014, pp. 011010-1-11.
- 9. "Analysis of Large Deformation Wound Roll Models," C. Mollamahmutoglu and J.K. Good, ASME Journal of Applied Mechanics, V80, July 2013, pp. 041016-1-11.
- 10. "Center Winding versus Surface Winding: The Effect of Winder Type and Web Material Properties on Wound Roll Stresses," Y. Ren, B. Kandadai , and J.K. Good, Transactions of the 15th Fundamental Research Symposium, Cambridge, England, September, 2013.
- 11. "The Effect of Roller Taper on Webs," H.H. Yurtcu, J.A. Beisel and J.K. Good, TAPPI Journal, v11, n11, November 2012, pp. 31-38.
- 12. "Winding Virtual Rolls," B.K. Kandadai and J.K. Good, TAPPI Journal, June, 2011, pp. 25-31.
- 13. "The Instability of Webs in Transport," J.A. Beisel and J.K. Good, ASME Journal of Applied Mechanics, V78, no 1, January, 2011, pp 1-7.
- 14. "A New Method for Measurement of Wound-In-Tension in Webs Wound into Rolls," J.K. Good, B.K. Kandadai, and R. Markum, Journal of Pulp and Paper Science, V 35, No.1, January/February/March 2009, pp. 17-23.
- "Instability of Webs: The Prediction of Troughs and Wrinkles," J.K. Good, J.A. Beisel, and H. Yurtcu, <u>Transactions of the 14<sup>th</sup> Fundamental Research Symposium</u>, Oxford, England, September, 2009.
- 16. "Calculations Relating to Web Buckling resulting from Roller Misalignment", J.K. Good and J.A. Beisel, TAPPI Journal, V5, N12, December, 2006, pp 9-16.
- 17. Invited Review Paper: "Winding and Unwinding Webs: A Review of the State of the Science in 2005," <u>Thirteenth Fundamental Research Symposium</u>, Pira International, Cambridge, September, 2005.
- "A Numerical Algorithm for Determining the Traction Between a Web and a Circumferentially Grooved Roller," K.S. Ducotey and J.K. Good, ASME Journal of Tribology, V. 122, July 2000.
- 19. "Predicting Traction in Web Handling," K.S. Ducotey and J.K. Good, ASME Journal of Tribology, V. 121, July 1999, pp 618-624.
- 20. "Viscoelasticity in Wound Rolls," W.R. Qualls and J.K. Good, Journal of Applied Mechanics, Vol. 64, No. 1, pp. 201-208, March, 1997.
- 21. "Thermal Analysis of Wound Rolls," W.R. Qualls and J.K. Good, Journal of Applied Mechanics, Vol. 64, No. 4, pp. 871-876, December 1997.
- 22. "The Effect of Web Permeability and Side Leakage on the Air Film Height Between a Roller and a Web," ASME Journal of Tribology, July, 1998.
- 23. "Traction: The Importance in Web Handling," K.S. Ducotey and J.K. Good, ASME Journal of Tribology, Vol. 117, No. 4, October 1995, pp. 679-684.
- 24. "The Science of Winding Paper Rolls," J. K. Good, <u>Transactions of the Tenth Fundamental</u> <u>Research Symposium</u>, Pira International, Oxford, England, September, 1993, pp 855-881.
- 25. "The Internal Stresses in Wound Rolls with the Presence of a Nip Roller", J.K. Good, Z. Wu, and M.W.R. Fikes, Journal of Applied Mechanics, Vol.61, n1, March 1994.
- 26. "The Mechanism of Nip Induced Tension in Wound Rolls," J.K. Good and Z. Wu, Journal of Applied Mechanics, Vol. 60, n4, pp. 942-947, 1993.
- 27. "Mechanical and Histopathologic Properties of Equine Superficial Digital Flexor Tenorraphy versus Spontaneous Tenotomy Healing," H.W. Jann, J.K. Good, S.J. Morgan and A. Berry, Veterinary Surgeon, Journal of the College of Veterinary Surgeons, Vol. 21, No. 1, January-February 1992.

- 28. "A Comparison of Nylon, Polybutester, and Polyglyconate Suture Materials for Long Digital Flexor Tenorraphy in Chickens," H.W. Jann, L.E. Stein, J.K. Good, P.J. Ewing and R. Panciera, Veterinary Surgeon, Journal of the College of Veterinary Surgeons, Vol. 21, No. 3, May-June 1992.
- 29. "Stability Sensitivity of Web Wrinkles on Rollers," by C.R. Friedrich and J.K. Good, TAPPI Journal, Vol.72, No. 2, February 1989.
- 30. "In Vitro Strength Characteristics and Failure Modes of the Three Loop Pulley and Locking Loop Suture Patterns in Equine Tendons," H.W. Jann, L.E. Stein, and J.K. Good, Veterinary Surgeon, Journal of the College of Veterinary Surgeons, Vol. 19, No. 1, January-February 1990
- 31. "A Biaxial Web Tension Transducer," J.K. Good and M.A. Magill, TAPPI Journal, Vol. 74, No. 5, May 1991.
- 32. "Using FSRS to Measure Radial Pressure in Wound Rolls / Predicting the Internal Stresses in Center-wound Rolls with an Undriven Nip Roller," J.K. Good and M.W.R. Fikes, TAPPI Journal, Vol. 74, No. 6, June 1991.
- 33. "Prediction of Shear Wrinkles in Web Spans," by L.S. Gehlbach, J.K. Good, and D.M. Kedl, TAPPI Journal, Vol. 72, No. 8, August 1989.
- 34. "Experimental Analysis of Squeal of Read/Write Heads Upon Floppy-Disk Media," by D.L. Miller and J. K. Good, Journal for Experimental Mechanics, Vol. 27, No. 2, pp. 126-131, June 1987.
- 35. "The Fractography of Hydrogen and Mercury Embrittlement in Inconel 600," by C.E. Price and J.K. Good, Journal of Materials Engineering, Vol. 9(3), pp. 133-141, 1987.
- 36. "Experimental Analysis of Displacement of Read/Write Heads on Floppy Disk Media," with C. Vickery and R.L. Lowery. Journal for Experimental Mechanics, Vol. 25, No. 2, pp. 200-204, June 1985.
- 37. "The Finite Element Modeling of the Free Vibration of a Read/Write Head Floppy Disk System," with R.L. Lowery. Trans. of ASME, Journal of Vibration, Acoustics, Stress and Reliability in Design, pp. 329-333, July 1985.
- 38. "The Fatigue Behavior of Nickel, Monel, and Selected Super Alloys, Tested in Liquid Mercury and Air; A Comparison," with C.E. Price. Trans. of ASME, Journal of Engineering, Materials and Technology, pp. 178-183, April 1984.
- 39. "The Tensile Fracture Characteristics of Nickel, Monel, and Selected Super Alloys Broken in Liquid Mercury," with C.E. Price. Trans. of ASME, Journal of Engineering Materials and Technology, pp. 184-191, April 1984.
- 40. "Lowest Natural Frequencies of Multiply-Supported U-Tubes," with D.C. Nguyen, T. Lester, R.L. Lowery, and P.M. Moretti. Trans. of ASME, Journal of Pressure Vessel Technology, Vol. 106, November 1984.
- 41. "The Development of Finite Element Modeling and Experimental Techniques for Dynamic Analysis of Read/Write Head Designs on Floppy Disk Media," Ph.D. thesis, Major Advisor, Dr. Richard L. Lowery, School of Mechanical Engineering, Oklahoma State University, 1983.

#### **Books (edited and authored)**

- 1. <u>Proceedings of the Eleventh International Conference on Web Handling</u>, edited by J.K. Good, Oklahoma State University, 2013.
- 2. <u>Proceedings of the Tenth International Conference on Web Handling</u>, edited by J.K. Good, Oklahoma State University, 2011.
- 3. <u>Proceedings of the Ninth International Conference on Web Handling</u>, edited by J.K. Good, Oklahoma State University, 2008.
- 4. <u>Winding Machines: Mechanics and Measurements</u>, J. K. Good and D. R. Roisum, TAPPI Press and DEStech Publications, March 2007.
- 5. Proceedings of the Eighth International Conference on Web Handling, edited by J.K. Good,

Oklahoma State University, 2005.

- 6. <u>Proceedings of the Seventh International Conference on Web Handling</u>, edited by J.K. Good, Oklahoma State University, 2005.
- 7. <u>Proceedings of the Sixth International Conference on Web Handling</u>, edited by J.K. Good, Oklahoma State University, 2002.
- 8. <u>Proceedings of the Fifth International Conference on Web Handling</u>, edited by J.K. Good, Oklahoma State University, 1999.
- 9. <u>Proceedings of the Fourth International Conference on Web Handling</u>, edited by J.K. Good, Oklahoma State University, 1997.
- 10. <u>Proceedings of the Third International Conference on Web Handling,</u> edited by J.K. Good, Oklahoma State University, 1995.
- 11. <u>Proceedings of the Second International Conference on Web Handling</u>, edited by J.K. Good, Oklahoma State University, 1993.
- 12. <u>Web Handling</u>, published by the Applied Mechanics Division of ASME, Vol. 149, edited by J.K. Good, 1992.
- 13. <u>Proceedings of the First International Conference on Web Handling,</u> edited by J.K. Good, Oklahoma State University, 1991.

# **Published Conference Papers**

- 1. "Predicting the Web Length and Layers in a Wound Roll," A. Gajjalla, R. Markum and J.K. Good, Proceedings of the Fifteenth International Conference on Web Handling, Web Handling Research Center, Stillwater, Oklahoma, June 10-13, 2019.
- 2. "Assessing Wound Roll Quality using Measured Stiffness and Models," R. Markum and J.K. Good, Proceedings of the Fifteenth International Conference on Web Handling, Web Handling Research Center, Stillwater, Oklahoma, June 10-13, 2019.
- 3. "Web Length Creep in Wound Rolls," C. Mollamahmutoglu, A. Gajjalla, R. Markum, A. Azoug and J.K. Good, Proceedings of the Fifteenth International Conference on Web Handling, Web Handling Research Center, Stillwater, Oklahoma, June 10-13, 2019.
- 4. "Mechanics of Cambered Web Belts on Aligned Rollers," Jinxin Shi, Ron Markum and J. K. Good, Proceedings of the Fifteenth International Conference on Web Handling, Web Handling Research Center, Stillwater, Oklahoma, June 10-13, 2019.
- 5. "Viscoelastic Web Curl due to Storage in Wound Rolls," S. Pan, A. Azoug and J. K. Good, Proceedings of the Fifteenth International Conference on Web Handling, Web Handling Research Center, Stillwater, Oklahoma, June 10-13, 2019.
- 6. "Impact of Large Deformations of Webs Transiting Rollers," Jinxin Shi, Ron E. Markum and J. K. Good, Proceedings of the Fourteenth International Conference on Web Handling, Web Handling Research Center, Stillwater, Oklahoma, June 5-7, 2017.
- 7. "The Winding Mechanics of Laminate Webs," Sheng Pan and J. K. Good, Proceedings of the Fourteenth International Conference on Web Handling, Web Handling Research Center, Stillwater, Oklahoma, June 5-7, 2017.
- 8. "Boundary Conditions for Lateral Deformation of Webs Transiting Rollers in Roll-to-Roll Process Machines," J. K. Good, Yao Ren and Jinxin Shi, Proceedings of the Fourteenth International Conference on Web Handling, Web Handling Research Center, Stillwater, Oklahoma, June 5-7, 2017.
- 9. "The Nip Mechanics of Nano-Impression Lithography in Roll-to-Roll Process Machines," Y. Ren and J. K. Good, Proceedings of the Fourteenth International Conference on Web Handling, Web Handling Research Center, Stillwater, Oklahoma, June 5-7, 2017.

- 10. "A Nip Impinged Center-Winding Model Including a Nonlinear Beam Model," C. Mollamahmutoglu, J.K. Good, R. Markum, J.W. Gale, Proceedings of the Fourteenth International Conference on Web Handling, Web Handling Research Center, Stillwater, Oklahoma, June 5-7, 2017.
- "The Impact of Thickness Measurement on Predicting Residual Stresses due to Winding," J. K. Good, C. Mollamahmutoglu, R. Markum, and J. W. Gale, Proceedings of the Thirteenth International Conference on Web Handling, Web Handling Research Center, Stillwater, Oklahoma, June 7-10, 2015.
- "The Coupling of Winding Models and Roll Quality Instruments," C. Mollamahmutoglu, O. Bulut, S. Adari and J. K. Good, Proceedings of the Thirteenth International Conference on Web Handling, Web Handling Research Center, Stillwater, Oklahoma, June 7-10, 2015.
- "An Axisymmetric Transient Thermo-Elastic Winding Model," C. Mollamahmutoglu and J. K. Good, Proceedings of the Thirteenth International Conference on Web Handling, Web Handling Research Center, Stillwater, Oklahoma, June 7-10, 2015.
- 14. "Explicit Simulations of Cambered Web Steering," B. Fu and J. K. Good, Proceedings of the Thirteenth International Conference on Web Handling, Web Handling Research Center, Stillwater, Oklahoma, June 7-10, 2015.
- 15. "Web Wrinkling Resulting from Moment Transfer," B. Fu and J.K. Good, Proceedings of the Twelfth International Conference on Web Handling, Web Handling Research Center, Stillwater, Oklahoma, June 2-5, 2013.
- 16. "Surface Compression of Wound Rolls," C. Mollamahmutoglu and J.K. Good, Proceedings of the Twelfth International Conference on Web Handling, Web Handling Research Center, Stillwater, Oklahoma, June 2-5, 2013.
- "The Effect of Winder Type and Web Material Properties on Wound-On-Tension," Y. Ren, B. Kandadai and J.K. Good, Proceedings of the Twelfth International Conference on Web Handling, Web Handling Research Center, Stillwater, Oklahoma, June 2-5, 2013.
- 18. "The Behavior of Webs Transiting Crowned Rollers," S. Vaijapurkar and J.K. Good, Proceedings of the Twelfth International Conference on Web Handling, Web Handling Research Center, Stillwater, Oklahoma, June 2-5, 2013.
- 19. "The Lateral Mechanics of Webs Transiting Process Machines," B. Fu, R. Markum, A. Reddy, S. Vaijapurkar, and J.K. Good, TAPPI Progress in Paper Physics Seminar, Graz University of Technology, Graz, Austria, Sept 5-8, 2011.
- 20. "Explicit Analysis of the Lateral Mechanics of Web Spans," B. Fu, R. Markum, A. Reddy, S. Vaijapurkar, and J.K. Good, Proceedings of the Eleventh International Conference on Web Handling, Web Handling Research Center, Stillwater, Oklahoma, June 12-15, 2011.
- 21. "Explicit Analysis of the Lateral Mechanics of Webs Transiting Concave Rollers," S. Vaijapurkar, and J.K. Good, Proceedings of the Eleventh International Conference on Web Handling, Web Handling Research Center, Stillwater, Oklahoma, June 12-15, 2011.
- 22. "Finite Element Analysis of Winding Nip Mechanics," B. Kandadai and K. Good, Proceedings of the Tenth International Conference on Web Handling," Web Handling Research Center, Stillwater, Oklahoma, June 7-10, 2009.
- 23. "Measurement of Nip Induced Tension and Contact Stresses," B. Kandadai and K. Good, Proceedings of the Tenth International Conference on Web Handling," Web Handling Research Center, Stillwater, Oklahoma, June 7-10, 2009.
- 24. "Large Deformation Winding Models," C. Mollamahmutoglu and K. Good, Proceedings of the Tenth International Conference on Web Handling," Web Handling Research Center,

Stillwater, Oklahoma, June 7-10, 2009.

- 25. "Axisymmetric Wound Roll Models," C. Mollamahmutoglu and K. Good, Proceedings of the Tenth International Conference on Web Handling," Web Handling Research Center, Stillwater, Oklahoma, June 7-10, 2009.
- 26. Keynote Paper "Predicting Web Wrinkles on Rollers," J. Beisel, H. Yurtcu and K. Good, Proceedings of the Tenth International Conference on Web Handling," Web Handling Research Center, Stillwater, Oklahoma, June 7-10, 2009.
- 27. Keynote Paper "Winding Models Using Science to Profit," J. K. Good, Proceedings of the Applied Web Handling Conference," AIMCAL, Minneapolis, Minnesota, May 6-9, 2008.
- 28. "Modeling wound rolls using explicit FE methods," B. K. Kandadai and J. K. Good, Proceedings of the Ninth International Conference on Web Handling," Web Handling Research Center, Stillwater, Oklahoma, June 10-13, 2007.
- 29. "Non Contact Wound-In-Tension Measurement," J. Good, B. Kandadai, and R. Markum, Proceedings of the Ninth International Conference on Web Handling," Web Handling Research Center, Stillwater, Oklahoma, June 10-13, 2007.
- 30. "A 3D Viscoelastic Winding Model," H. Yu, E. Poh, J. Good and H. Lu, Proceedings of the Ninth International Conference on Web Handling," Web Handling Research Center, Stillwater, Oklahoma, June 10-13, 2007.
- 31. "Analysis of Flexible Spreader Rollers," J. Good and R. Markum, Proceedings of the Ninth International Conference on Web Handling," Web Handling Research Center, Stillwater, Oklahoma, June 10-13, 2007
- 32. Invited Keynote Presentation: "The Abilities & Inabilities of Wound Roll Models to Predict Defects," J. K. Good, Proceedings of the Eighth International Conference on Web Handling," Web Handling Research Center, Stillwater, Oklahoma, June 5-8, 2005.
- 33. "Analysis of Trough Formation and Lateral Steering of a Web Due to a Tapered Downstream Roller," J. A. Beisel and J. K. Good, Proceedings of the Eighth International Conference on Web Handling," Web Handling Research Center, Stillwater, Oklahoma, June 5-8, 2005.
- 34. "Wound-on-Tension in a Non-Woven Web," K. K. Balaji and J. K. Good, Proceedings of the Eighth International Conference on Web Handling," Web Handling Research Center, Stillwater, Oklahoma, June 5-8, 2005.
- 35. "Tension Allocation in Three Dimensional Wound Roll Models," P. Hoffecker and J. K. Good, Proceedings of the Eighth International Conference on Web Handling," Web Handling Research Center, Stillwater, Oklahoma, June 5-8, 2005.
- 36. "Wound-On-Tension for Two Drum Winders," J. K. Good, B. Cowan, L. Dolezal, and R. Markum, Proceedings of the Seventh International Conference on Web Handling," Web Handling Research Center, Stillwater, Oklahoma, June 1-4, 2003.
- 37. "Buckling of Orthotropic Webs in Process Machinery," J. K. Good and J. A. Beisel, Proceedings of the Seventh International Conference on Web Handling," Web Handling Research Center, Stillwater, Oklahoma, June 1-4, 2003.
- 38. "Modeling Nip Induced Tension in Wound Rolls," J. K. Good, Proceedings of the Sixth International Conference on Web Handling," Web Handling Research Center, Stillwater, Oklahoma, June 10-13, 2001.
- 39. "Modeling Rubber Covered Rollers in Web Lines," J. K. Good, Proceedings of the Sixth International Conference on Web Handling," Web Handling Research Center, Stillwater, Oklahoma, June 10-13, 2001.

- 40. "Design of Contoured Rollers for Web Spreading," R. Markum and J. K. Good, Proceedings of the Sixth International Conference on Web Handling," Web Handling Research Center, Stillwater, Oklahoma, June 10-13, 2001.
- 41. "A Comparison of Center Winding with a Nip and Surface Winding using the Wound-In-Tension Measurement Technique," J. K. Good, J. Hartwig, and R. Markum, Proceedings of the Fifth International Conference on Web Handling," Web Handling Research Center, Stillwater, Oklahoma, June 1-4, 1999.
- 42. "Wrinkles induced by Twist within a Web," J. K. Good and P. Straughan, , Proceedings of the Fifth International Conference on Web Handling," Web Handling Research Center, Stillwater, Oklahoma, June 1-4, 1999.
- 43. "Shear in Multi-Span Web Systems, Proceedings of the Fourth International Conference on Web Handling," Web Handling Research Center, Stillwater, Oklahoma, June 1-4, 1997.
- 44. "Entrained Air Films in Centerwound Rolls With and Without the Nip," R. Taylor and J.K. Good, Proceedings of the Fourth International Conference on Web Handling, Web Handling Research Center, Stillwater, Oklahoma, June 1-4, 1997.
- 45. "Shear Wrinkling in Isolated Web Spans," Proceedings of the Fourth International Conference on Web Handling, Web Handling Research Center, Stillwater, Oklahoma, June 1-4, 1997.
- 46. "The Importance of Torque Capacity in Predicting Crepe Wrinkles and Starring within Wound Rolls," N. Vaidyanathan and J.K. Good, Proceedings of the Third International Conference on Web Handling, Web Handling Research Center, Stillwater, Oklahoma, June 18-21, 1995.
- 47. "Air Entrapment and Residual Stresses in Rolls Wound with a Rider Roll," J.K. Good and S.M. Covell, Proceedings of the Third International Conference on Web Handling, Web Handling Research Center, Stillwater, Oklahoma, June 18-21, 1995.
- 48. "A Nonlinear Orthotropic Viscoelastic Winding Model," W.R. Qualls and J.K. Good, Proceedings of the Third International Conference on Web Handling, Web Handling Research Center, Stillwater, Oklahoma, June 18-21, 1995.
- 49. "The Web Handling Research Center," J.K. Good, Proceedings of the 1993 TAPPI Finishing and Converting Conference, New Orleans, La., October 24-27, 1993, pp. 249-260.
- 50. "Computing Wound Roll Stresses based upon Web Surface Characteristics, " J.K. Good and Y. Xu, Proceedings of the Second International Conference on Web Handling, Web Handling Research Center, Stillwater, Oklahoma, June 6-9, 1993.
- 51. "The Effect of Air Entrainment in Center wound Rolls, " J.K. Good and M.W. Holmberg, Proceedings of the Second International Conference on Web Handling, Web Handling Research Center, Stillwater, Oklahoma, June 6-9, 1993.
- 52. "Analysis of Web Spreading Induced by the Concave Roller," R.D. Delahoussaye and J.K.Good, Proceedings of the Second International Conference on Web Handling, Web Handling Research Center, Stillwater, Oklahoma, June 6-9, 1993.
- 53. "Analysis of Web Spreading Induced by the Curved Axis Roller," R.D. Delahoussaye and J.K.Good, Proceedings of the Second International Conference on Web Handling, Web Handling Research Center, Stillwater, Oklahoma, June 6-9, 1993.
- "Losses in Wound-On Tension in the Centerwinding of Wound Rolls", J.K. Good, J.D. Pfeiffer, and R.M. Giachetto, AMD- Vol. 149, <u>Web Handling - 1992</u> edited by J.K.Good, pp. 1-12.
- "Tension Losses During Centerwinding", J.K. Good and J.D. Pfeiffer, Proceedings of the 1992 TAPPI Finishing and Converting Conference, Nashville, TN, October 18-21, 1992, pp. 297-306.
- 56. "Stresses within Wound Rolls Wound in the Presence of a Nip Roller", J. K. Good, Z. Wu and M.W.R. Fikes, Proceedings of the First International Conference on Web Handling, Web Handling Research Center, Stillwater, Oklahoma, May 19-21, 1991.

- 57. "Using FSRS to Measure Radial Pressure in Wound Rolls ",J.K. Good and M.W.R. Fikes, Proceedings of the First International Conference on Web Handling, Web Handling Research Center, Stillwater, Oklahoma, May 19-21, 1991.
- 58. "Web Wrinkling Effects on Web Modeling," by L. S. Gehlbach, J. K. Good, and D.M. Kedl, Proceedings of the 1987 American Controls Conference, pp. 1200-1202, June 1987.

# **Invited/Keynote Lectures**

- 1. Invited Presentation: ICFPE 2012 (International Conference on Flexible and Printed Electronics): The Lateral Mechanics of Webs transiting Process Machines for Flexible and Printed Electronics, Tokyo, Japan, September 2012.
- 2. Invited Keynote Presentation: "Predicting Web Wrinkles on Rollers," Proceedings of the Tenth International Conference on Web Handling," Web Handling Research Center, Stillwater, Oklahoma, June 7-10, 2009.
- 3. Invited Keynote Presentation: "Winding Models Using Science to Profit," J. K. Good, Proceedings of the Applied Web Handling Conference," AIMCAL, Minneapolis, Minnesota, May 6-9, 2008.
- 4. Invited Presentation: "Winding and Unwinding Webs: A Review of the State of the Science in 2005," <u>Thirteenth Fundamental Research Symposium</u>, Pira International, Cambridge, September, 2005.
- Invited Keynote Presentation: "The Abilities & Inabilities of Wound Roll Models to Predict Defects," J. K. Good, Proceedings of the Eighth International Conference on Web Handling," Web Handling Research Center, Stillwater, Oklahoma, June 5-8, 2005.

#### **Reports: Accreditation and Research**

- 1. ABET Self-Study Report for the Bachelor of Science Aerospace Engineering Program at Oklahoma State University, J. K. Good, Stillwater, Oklahoma, June 2015, 316 pages.
- 2. ABET Self-Study Report for the Bachelor of Science Mechanical Engineering Program at Oklahoma State University, J. K. Good, Stillwater, Oklahoma, June 2015, 325 pages.
- 3. Web Handling Research Center Semi-Annual Reports, 1986-2016, I estimate over 250 of these reports have been written to date.
- 4. "Dynamic Analysis of Read/Write Heads above a Winchester Disk Surface," by J.K. Good and R.K. Brown, Final Research Report submitted to CDC of Oklahoma City, OK, May 1988.
- 5. "Design of Read/Write Heads on Floppy Disk Media," with D.L. Miller. Final report submitted to Magnetic Peripherals Inc. of Oklahoma City, Oklahoma, January 1985.
- 6. "Floppy Disk Vibrations Study," with R. L. Lowery. Final report submitted to Magnetic Peripherals of Oklahoma City, Oklahoma, December 1982.
- 7. "Objective Ride Quality of Air-Ride Seats," with D. Boyd. Report submitted to Lee Way Inc. of Oklahoma City, Oklahoma, 1982.
- 8. "Deflections of the Charles Machine Works Model R-100 Subjected to Backhoe Loads," with L. Turney and D. Boyd. Final report submitted to Charles Machine Works, Perry, Oklahoma, 1978.
- 9. The following internal reports held by Cessna Aircraft Co., Wichita Kansas authored by J.K. Good:
  - 1. Wing Stress Analysis of Cessna Model 425-Corsair, 1980.
  - 2. Wing Stress Analysis of Cessna Model 421C-Golden Eagle-1979.
  - 3. Main Landing Gear Stress Analysis of Cessna Model 441-Conquest, 1977.

# INVENTION DISCLOSURES AND PATENTS

Title	Date of <u>Disclosure</u>	Status of <u>Patent</u>
Roll Structure Acoustic Gage and Method	4/19/1991	awarded, 1996
Method and Apparatus for the Monitoring And Control of Wound-In-Tension	5/20/2002	not pursued
Wound Roll Quality Instrument and Method	3/14/2016	disclosure filed, patent in process