

# **Larry F. Stikeleather**

**RANK: Professor**

**GRADUATE FACULTY STATUS: Member**

## **EDUCATION:**

B.S. N.C. State University 1964 Biological & Agricultural Engineering

Ph.D. N.C. State University 1968 Biological & Agricultural Engineering

## **DISTRIBUTION OF EFFORT:**

80% Research - 20% Teaching

## **EMPLOYMENT RECORD:**

9/85 - Professor, Department of Biological & Agricultural Engineering, N.C. State University, Raleigh, NC

1984-9/85 Manager, Technology Planning and Development, Advanced Technology Center, Allis-Chalmers Corp.

1982-84 Manager, Machine Dynamics, Advanced Technology Center, Allis-Chalmers Corp.

1977-82 Manager, Product Planning, Agricultural Equipment Co., Allis-Chalmers Corp., Milw., WI.

1975-79 Manager, Vehicle Systems Technology, Advanced Technology Center, Allis-Chalmers Corp., Milw., WI.

1969-75 Staff Engineer/Manager Advanced Product Engineering, Bostrom Division, Universal Oil Products Co., Milw., WI.

## **REGISTRATION:**

P.E. - State of Wisconsin # 18417

## **PROFESSIONAL SOCIETIES:**

Phi Kappa Phi

Alpha Zeta

Tau Beta Pi

Gamma Sigma Delta

Knights of St. Patrick  
American Society of Agricultural Engineering  
Society of Automotive Engineers  
Sigma Xi

### **AWARDS AND HONORS:**

Recipient of the Wisconsin Section of ASAE 1983 Engineer of the Year Award for ---  
"Outstanding Contributions to the Profession"

Recipient of an SAE Technical Board Certificate of Appreciation in Recognition of Outstanding Contributions to the SAE Human Factors Comm (1980)

Recipient of an Acoustical Society of America Certificate of Appreciation for "Significant Contributions to ANSI Standards" (June 1980)

ASAE Distinguished Lecture No. 7 in the Tractor Design Series - 1981

### **SELECTED PUBLICATIONS AND PAPERS:**

Wang, Zi, Roger Rohrbach and L.F. Stikeleather. 1993. Low Energy Electron Beam Surface Sterilization of Food Packaging Materials. ASAE Paper 93308 presented at the ASAE International Meeting, Spokane, Washington.

Wang, Zi, Roger P. Rohrbach, and L.F. Stikeleather. 1993. Electron dose-depth calculation using Monte Carlo Code. ASAE Paper 933587 presented at the ASAE International Meeting, Chicago.

Singleton, J.A. and L.F. Stikeleather. 1993. Changes in the Phospholipids in Peanuts Subjected to Postharvest Temperature Stress. Abstract in INFORM, Vol. 4, 724, pp 538- 539.

Abrams, C.F., Jr., L.F. Stikeleather, L.G. Wilson, and M.E. Wright. 1992. Mechanization of field production. Fifty Years of Cooperative Sweetpotato Research, 1939-1989. Southern Cooperative Series, No. 369. pp. 119-131.

Boyette, M.D. and L.F. Stikeleather. 1992. Prospects for washing and grading sweetpotatoes before curing and storage. ASAE Paper #92-6011 presented at the ASAE International Meeting, June 21-24, Charlotte, N.C.

Rohrbach, R.P. and L.F. Stikeleather. 1991. Application of swift electrons for surface biodecontamination. ASAE Paper 91-3003. Presented at the International ASAE Meeting, Albuquerque, N.M.

Stikeleather, L.F. 1991. Seat vibration and ride comfort. Published by ASAE in Human Factors - a series of quality instructional teaching modules. Module 6, 22 pages.

Stikeleather, Larry. 1991. Progress Toward a Bulk System for Harvesting, Handling, Curing, and Storing Sweetpotatoes. Proceedings of the 3rd International Symposium on Fruit, Nut, and Vegetable Harvesting Mechanization. Denmark, Sweden, Norway. Young, J.H. and L.F. Stikeleather. 1991. Use of TK Solver in Agricultural Engineering Instruction. Transactions of the ASAE. Vol. 34(1), pp 301-306.

Stikeleather, L.F. and T.L. Foutz. 1989. Simulation of Seat Ride Performance as Influenced by the Mechanical Impedance of the Test Load. Proceedings of the SAE Noise and Vibration Conference. Vol. P-222. p. 371-382.

Stikeleather, L.F. and Kent P. Harrell. 1989. The Development of a Research Facility for Bulk Sweetpotatoes. ASAE Paper 89-6515 presented at the International Winter Meeting of ASAE, New Orleans.

Stikeleather, L.F. 1981. "Operator Seats for Agricultural Equipment". ASAE DISTINGUISHED LECTURE presented to the ASAE National Meeting, Chicago, IL. Published as Lecture No. 7 in the Tractor Design Series.

Stikeleather, L.F. 1976. "Vibration Standards and Tolerance Criteria". SAE Paper 76-0413. TRANSACTIONS of the SAE. Vol. 85:1460-1467.

Stikeleather, L.F. 1975. "Overview: Application of Human Factors Engineering in Agriculture". ASAE Paper 75-5523. Presented in December 1975 at ASAE Chicago Meeting.

Stikeleather, L.F. 1973. "Evaluating the Vibration and Shock Qualities of Operator Seats for Construction Machinery". SAE Paper 73-0823 in TRANSACTIONS of the SAE, Vol. 82.

Stikeleather, L.F., G.O. Hall, and A.O. Radke. 1972. "A Study of Vehicle Vibration Spectra as Related to Seating Dynamics". SAE Paper 72-0001. TRANSACTIONS of the SAE, Vol. 81.

Stikeleather, L.F. 1970. "The Development of an Active Seat Suspension System for Off- Road Vehicles". TRANSACTIONS of the ASAE 13(1):99-106.

Suggs, C.W., L.F. Stikeleather, and C.F. Abrams, Jr. 1970. "Field Tests of an Active Seat Suspension for Off-Road Vehicles". Presented June 1969 and published in TRANSACTIONS of ASAE, Vol. 13, N. 5, pp. 608-611.

Suggs, C.W., C.F. Abrams, and L.F. Stikeleather. 1969. "Application of a Damped Spring- Mass Human Vibration Simulator in Vibration Testing of Vehicle Seats". Ergonomics, 12(1):79-90.

Suggs, C.W., C.F. Abrams and L.F. Stikeleather. 1969. "Application of a Damped Spring- Mass Human Vibration Simulator in Vibration Testing of Vehicle Seats". Presented at the 3rd Intern. Congr. on Ergonomics, Birmingham, England.

Stikeleather, L.F. 1968. "The Development of an Active Seat Suspension System for Off- Road Vehicles". Unpublished Ph.D. Dissertation, North Carolina State University, Raleigh, North Carolina.

#### **PATENTS:**

U.S. Patent 3,552,271 issued Jan. 5, 1971. Active Suspension System.

U.S. Patent 3,561,789 issued Feb. 9, 1971. Powered Upper Link for 3-Pt. Free-Link Hitch.

U.S. Patent 3,572,763 issued March 30, 1971. Three-Point Quick Hitch Coupler.

U.S. Patent 3,618,692 issued Nov. 9, 1971. Vehicle Cab Suspension.

U.S. Patent 3,977,725 issued Aug. 31, 1976. Fore and Aft Adjustment Mechanism and Seat Belt Anchorage for Suspension Seat. (Co-Inventor).

U.S. Patent 4,323,126 issued April 6, 1982. Ridge Mulch Tillage Method and Apparatus.

U.S. Patent 4,342,186 issued Aug. 3, 1982. Resonant Sickle Drive.

1993 Patent filed by USDA 4/22/94 (joint with John Singleton): "A High Performance Liquid Chromatography Injection System for the Simultaneous Concentration and Analysis of Trace Components"

#### **GRANTS AND GRADUATE ASSISTANTSHIPS:**

Rohrbach, R.P. and L.F. Stikeleather. Irradiation sterilization of packaging materials prior to aseptic packaging \$28,800 - August 87 through July 88, CAPPS.

Rohrbach, R.P. and L.F. Stikeleather. Irradiation sterilization of packaging materials prior to aseptic packaging \$29,500. Funded 11/1/88 thru 10/31/89. CAPPS CALS-NCSU.

Rohrbach, R.P. and L.F. Stikeleather. Swift electron sterilization of packaging materials prior to aseptic packaging, \$49,900. Funded 11/1/88 thru 10/31/89. CAPPS CALS-NCSU.

N.C. Agricultural Foundation Assistantship for M.S. Student (1988-1990) for "Semi- Automated Inspection and Grading of Sweetpotatoes".

N.C. Agricultural Foundation Assistantship for Ph.D. Student (1992 - ) for "Surface Sterilization of Food Commodities Using High Energy Ion Bombardment".