

Publications

Refereed Papers in Robotics & Design:

Wilkinson, S., Klar, J., Applegarth, S.P., "Optimizing Biofuel Cell Performance Using a Targeted Mixed Mediator Combination"-Electroanalysis, Vol. 18, No. 19-20, pp. 2001-2007, 2006

Wilkinson, S., Applegarth, S.P., "Bendable, Spliceable, Tubular Biofuel Cell Cable" Proceedings of the 230th American Chemical Society (ACS) Annual Meeting, Division of Fuel Chemistry, Advances in Fuel Cell Research, Biological Fuel Cells, paper #115, Grand Hyatt, Washington, D.C., August 28 – September 1, 2005

Wilkinson, S., Applegarth, S.P., "A Hybrid Biofuel Cell Approach Using Cellular Disruption"- Proceedings of the 204th Meeting of the Electrochemical Society, Symposium U1 – Biological Fuel Cells, paper # U1-1243, Orlando, Florida, October 12-17, 2003.

Haiduven, D., Wilkinson, S., *et al.*, "Development of a Seated Device for Measuring Diurnal Variability in Spinal Compression", Journal of Musculoskeletal Research, Vol. 7, No. 1, pp. 49-60, 2003

Wilkinson, S., Applegarth, S.P., Pennington, G.M., "Juice from Juice – Electricity Generation for Carnivorous Robots"- Proceedings of the IASTED International Conference on Robotics & Applications, RA 2001, paper # 346-036, Clearwater, Florida, November 19-22, pp. 204-212, 2001.

Wilkinson, S., Pennington, G.M., Applegarth, S.P., "Potential Role of Bees & Honey in Robot Foraging & Power Generation"- Proceedings of the IASTED International Conference on Robotics & Applications, RA 2001, paper # 346-071, Clearwater, Florida, November 19-22, pp. 213-219, 2001.

Wilkinson, S., "Hungry for Success – Future Directions in Robotics Research", Industrial Robot Journal, Vol. 28(3), May 18, 2001.

Wilkinson, S., "Robots – Benefits & Challenges of Microbial Fuel Cells in Food Powered Robot Applications"- J. Autonomous Robots, paper # 99-026, Vol. 9(24), pp. 99-111, 2000.

Wilkinson, S., "Gastronome – A Pioneering Food Powered Mobile Robot"- Proceedings of the IASTED International Conference on Robotics & Applications, RA 2000, paper # 318-037, Honolulu, Hawaii, August 14-16, pp. 176-181, 2000.

Wilkinson, S., "A Crude but Novel Carrot Powered Robot for Middle or High School Demonstrations"- Proceedings of the IASTED International Conference on Robotics & Applications, RA 1999, paper # 304-024, Santa Barbara, California, October 28-30, pp. 347-351, 1999

Wilkinson, S. & Guanio, D., "Development of a Spectrometric Citrus Odor Sensor for a Frugivorous Robot" Proceedings of the 6th IASTED International Conference on Robotics and Manufacturing, Banff, Alberta, Canada, July 26-31, 1998.

Wilkinson S., "Pole-Climbing, Light Bulb-Swapping Robots - A Design Challenge" - Proceedings of the 1998 Florida Conference on Recent Advances in Robotics, paper # 105, FIT, Melbourne, FL, March 26-27, 1998.

Wilkinson S. & Chhabra N.K., "A Hybrid Swedish-Tracked Locomotion System for Robotic Industrial Pallets" - Proceedings of the 5th IASTED International Conference on Robotics and Manufacturing, paper # 256-024, Cancun, Mexico, May 29-31, 1997.

Wilkinson S. & Pennington G., "Teleoperated Robotic Sensor for Precision pH Measurement in Deep Ocean"-

Proceedings of the 4th IASTED International Conference on Robotics and Manufacturing, Honolulu, Hawaii, August 19-22, 1996, ISBN: 0-88986-209-5, pp. 119-122.

Wilkinson S. & Campbell C., "Green Bug Robots - Renewable Environmental Power for Miniature Robots"- Proceedings of the 4th IASTED International Conference on Robotics and Manufacturing, Honolulu, Hawaii, August 19-22, 1996, ISBN: 0-88986-209-5, pp. 275-278.

Wilkinson S. & Campbell C., "Bio-Power: A Study of Fermentation Driven Insect Robots" - Proceedings of the 1996 Florida Conference on Recent Advances in Robotics, FAU, Boca Raton, FL, April 11-12, 1996, pp. 204-209.

Wilkinson S. & Meyers J. W., "An Electric Miniature Robotic Hovercraft for Stealth land Mine Detection" - Proceedings of the 1996 Florida Conference on Recent Advances in Robotics, FAU, Boca Raton, FL, April 11-12, 1996, pp. 147-153.

Wilkinson S. & Pennington G., "Design and Construction of an Automated Precision pH Measuring Device for Marine Research" - Proceedings of the 1996 Florida Conference on Recent Advances in Robotics, FAU, Boca Raton, FL, April 11-12, 1996, pp. 115-124.

Wilkinson S. & Guanio D., "Design of an Autonomous Underwater Window Cleaning Robot at the Florida Aquarium" - Proceedings of the 1996 Florida Conference on Recent Advances in Robotics, FAU, Boca Raton, FL, April 11-12, 1996, pp. 130-137.

Wilkinson S., "Green Bug Robots - Renewable Environmental Power for Miniature Robots" - Proceedings of the 1996 Florida Conference on Recent Advances in Robotics, FAU, Boca Raton, FL, April 11-12, 1996, pp. 286-290.

Wilkinson S., "A Miniature Robotic Hovercraft Concept for Infantry Mine Detection" - Proceedings of 4th Conf. on Recent Advances in Robotics, Florida Atlantic University, Boca Raton, FL, May 16-17, 1991.

Wilkinson S., "A Simple Hybrid Laser/Auto-focus Rangefinder for Small Robot or Space Applications" – Proceedings of 3rd Conference on Recent Advances in Robotics, Florida Atlantic University, Boca Raton, FL, May 31 - June 1, 1990.

Wilkinson S. & Stipe M. E., "Tribological Sensors for Robot Active Gripping Applications" - Proceedings of 2nd Conference on Recent Advances in Robotics, FAU, Boca Raton, FL, May 18-19, 1989, pp. 107-111.

Wilkinson S., "A Miniature Robotic Boundary Layer Data Acquisition System" - Journal of Robotic Systems, 5(3), June 1988, pp. 197-208.

Wilkinson S., "Locomotion System Options for Land-Operated Mobile Robots - A Review" - Proceedings of 1st Conference on Recent Advances in Robotics, Florida Atlantic University, Boca Raton, FL, May 19-20, 1988. pp. 133-140, 2nd Place Paper (53 presented).

Prominent Magazine Articles & Book Chapters in Robotics

Wilkinson, S., "A Robot That Eats Sugar" in Propulsion by Rene Dore & Gaetan Veilleux (Science & Technology Textbook for High Schools), Montreal, Canada, distributed in Quebec schools (in French), Les Editions CEC inc., p 166, ©2005, ISBN 2-7617-2119-5.

Wilkinson, S., "Bibots – Energy Autonomy in Robots" in The Robots – A History of Robotics by Chantal Leguay, Editions IMHO, France (in French), p. 110, ©2005, ISBN 2-9154-5312-8

Wilkinson, S., "Gastrobots" in Robots Unlimited: Life in a Virtual Age by David Levy, A.K. Peters LTD, Wellesley, MA, Chapter 8, p. 280, ©2005, ISBN 1-5688-1239-6

Wilkinson, S., (Aylett, R., Editor), "The Microbial Fuel Cell", in: Robots – Bringing Intelligent Machines to Life, Energizing Section, Chapter 5, Barron's Educational Series Inc., Quarto Publishing Plc, London, ISBN 0-7641-5541-5pp. 96-97, 2002.

Wilkinson, S. & Hapgood, F., "Living Off the Land", Smithsonian, Phenomena Section, Vol. 32, No. 4, July, pp. 20-22, 2001.

Wilkinson, S., "Marching on its Stomach", The Economist, Technology Quarterly, Monitor Section, Vol. 359, No. 8227, June 23-29, pp. 12, 2001.

Wilkinson, S. & Wilson, J., "Robot Dines on Sugar Cubes", Popular Mechanics, Technology Watch Section, Vol. 177, No. 12, December, pp. 18, 2000.

Wilkinson, S. & Thieme, T., "Eating Machine", Popular Science, Science & Technology Section, Vol. 257, No. 6, December, pp. 16, 2000.

Wilkinson, S. & Graham-Rowe, D., "Feed Me", New Scientist, No. 2248, July 22, pp. 7, 2000.

Wilkinson, S. & Saunders, F., "It's an Eating Machine, and That's a Compliment", Discover, Tech Watch Section, Vol. 22, No. 4, April, pp. 14, 2001.

Wilkinson, S., "Please Don't Eat the Daisies", ASEE Prism Briefings Section, Vol. 10, No. 8, April, pp. 9, 2001.

Wilkinson, S., & E. Sender Domoulin, "Les Robots Vegetariens", Sciences et Avenir, Techno Robotique Section (in French), No. 645, November, pp. 104-105, 2000.

Wilkinson, S. & Hapgood, F., "Lawn Mowers That Lunch", Worth, February, pp. 29, 2001

Wilkinson, S. & Vella, M., "Who Says Sugar is Bad?", IEEE Spectrum, News Briefs Section, Vol. 38, No. 2, February, pp. 20, 2001.

Wilkinson, S. & Talbot, D., "Gastrobot", MIT Technology Review, Prototypes Section, January/February, pp. 27, 2001.

Refereed Papers in Aerodynamics & Naval Architecture:

Wilkinson S., "Boundary Layer Explorations Over a 2D Mast/Sail Geometry" - Marine Technology (Journal of the Society of Naval Architects and Marine Engineers), Vol. 27, No. 4, July, 1990.

Wilkinson S., "Static Pressure Distributions Over 2D Mast/Sail Geometries" - Marine Technology (Journal of the Society of Naval Architects and Marine Engineers), Vol. 26, No. 4, Oct., 1989, pp. 333-337

Wilkinson S., "Simple Multilayer Panel Method For Partially Separated Flows Around Two-dimensional Masts and Sails" - AIAA Journal, Vol. 26, No. 4, April 1988, pp. 394-395.

Wilkinson S., "A Simple Multi-Layer Panel Method For Partially Separated Flows Around 2D Masts and Sails" - Proceedings of AIAA 19th Fluid Dynamics, Plasma Dynamics, and Lasers Conference, Paper #87-1270, Honolulu, Hawaii, June 8-10, 1987.

Wilkinson S., "Investigations into 2D Mast/Sail Interactions - Part II" - Proceedings of First Tampa Bay Sailing Yacht Symposium, USF Bayboro Campus, St. Petersburg, Florida, Feb. 1986.

Wilkinson S., "Partially Separated Flows Around 2D Mast and Sails" - *Ph.D. Thesis*, Ship Science Department, University of Southampton, England, 1984.

Wilkinson S., "Investigations into 2D Mast/Sail Interactions - Part I" - Proceedings of International Conference on

Sail-Assisted Commercial Fishing Vessels, SNAME Southeast Section, Tarpon Springs, FL, May 1983. 1st Place Paper (31 presented).

Refereed Papers on Teaching & Laboratory Development:

Wilkinson S., "Electronic Submission, Grading and Return of Undergraduate Laboratory Reports – A Pilot Study and Outcomes Assessment" - Proceedings (CD-ROM) of the ASEE Southeast Section Conference, Clemson, SC, April 11-13, 1999.

Wilkinson S., "Lab Report Writing in Modern Engineering Education - The Beleaguered Doctrine" - 1997 Frontiers in Education Conference, paper# 1390, Pittsburgh, PA, November 5-8, 1997.

Wilkinson S., Kranc S.C. & Biver C.J., "PVC Experiments - First Rate Lab Apparatus from Plastic Plumbing, Adhesive, and Imagination" - 1997 Frontiers in Education Conference, paper # 1389, Pittsburgh, PA, November 5-8, 1997.

Wilkinson S., "Innovative Student Solutions to a Robotics Design Exercise" - 1997 Frontiers in Education Conference, paper # 1388, Pittsburgh, PA, November 5-8, 1997.

Wilkinson S. & Pennington G., "An Innovative Student Project to Develop a Precision Instrument for Undersea pH Measurement" - 1997 ASEE Annual Conference, Instrumentation Div., Technical Session # 1559, paper #15, Milwaukee, WI, June 15-18, 1997.

Wilkinson S. & Bogan A., "A Simple But Challenging Hands-On Project for Robotics Courses" - Proceedings of the 1996 Florida Conference on Recent Advances in Robotics, FAU, Boca Raton, FL, April 11-12, 1996, pp. 261-265.

Wilkinson S., "Great Labs on a Not-So-Great Budget" - Proceedings of ASEE 1994 Annual Conference, Session #2626, Edmonton, Alberta, Canada, June 25-30, 1994.

Wilkinson S., "Mechanical Engineering Laboratory I - A Cost Effective Solution" - Proceedings of ASEE 1989 Southeastern Annual Section Meeting, University of Alabama, Tuscaloosa, AL, April 2-4, 1989.

Wilkinson S., "A Laboratory Course in Digital Electronics and Microprocessors for Mechanical Engineers" - Proceedings of ASEE Zone II Joint Sections Meeting, Louisville, KY, April 9-12, 1988. pp. 167-174. 4th Place Paper (64 presented).

Wilkinson S. & Lulu M., "Robotics and Manufacturing Instruction in Universities - Who Should Teach What?" - Proceedings of ASEE 1988 Annual Conference, Vol. 3, Univ. of Portland, OR, June 19-23, 1988, pp. 1223-1224.

Technical Reports & Seminar Papers:

Wilkinson S., Applegarth S., "A Manual Pill Crusher Design" - for Donovan Industries, Tampa, FL, August 2006.

Wilkinson S., "Reliability Enhancement of the Halkey-Roberts Auto-Inflator Product" - for Halkey-Roberts Corporation, St Petersburg, FL, December 5, 1997.

Wilkinson S., "Crunkelton Harvester Redesign - Progress Report" - for Florida Department of Citrus, Lake Alfred, FL, March, 1997.

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Wilkinson S. & Crane R.A., "An Advanced Fire Fighting Robot Concept" - Technical Report USF-RSL-TR-001-90, February, 1990, 44 pages.

Wilkinson S. & Stipe M. E., "Design and Development of a Slip Detector Evaluation Apparatus and Validation of a

New Prototype Slip Sensor" - Technical Report USF-RSL-01-89, May, 1989. USF Grant # 5-25-2.

Wilkinson S., "Sensors for Space Robots" - Proceedings of Florida Space Research & Development Workshop, Orlando, Florida, February 1989.

Wilkinson S., "Progress in Robotic Systems Research at USF" - 3rd Annual USF Industry/Research Seminar, College of Engineering, University of South Florida, March 1988.

Wilkinson S., "Dynamic Analysis & Optimization of an Automated In-Tank Fluid Level Monitoring System" - Consultants Report for Colt Industries (Liquid Manager Operation), Tampa, FL, Sept., 1987.

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Wellicome J. & Wilkinson S., "Ship Propulsive Kites - An Initial Study" - Southampton University SUSS Report #19, Dec. 1984.

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