

CURRICULUM VITAE:

NAME: Suzanne Maria Schneider (Fortney), Ph.D.
TITLE: Assistant Professor
ADDRESS: University of New Mexico
Department of Physical Performance and Development
Johnson Center, room B145
Albuquerque, NM 87136
505-277-3795
sschneid@unm.edu

EDUCATION AND TRAINING

| <i>Degree</i> | <i>Year</i> | <i>Institution</i> | <i>Field</i> |
|---------------|-------------|------------------------|--------------|
| B.A. | 1972 | University of Missouri | Biology |
| Ph.D. | 1979 | St. Louis University | Physiology |

Postdoctoral Training: 1979 - 1981. Postdoctoral fellowship at the John B. Pierce Foundation with an appointment with the Department of Epidemiology at Yale.

Professional Experience:

1981 – 1987 Assistant Professor, Johns Hopkins School of Hygiene and Public Health, Division of Environmental Physiology.
1987 - 1988 Associate Professor, Johns Hopkins School of Hygiene and Public Health, Division of Environmental Physiology, Head of the Environmental Physiology Laboratory.
1992-1995 Adjunct Professor, University of Texas Medical Branch, Galveston, Tx.
1994-1999 Project Scientist, Human Research Facility of the International Space Station.
1988 –2001 Research Physiologist, NASA, Johnson Space Center. (88-92, Cardiovascular Laboratory; 92-present, Exercise Physiology Laboratory).
2002-present Assistant Professor, University of New Mexico, Dept Exercise Sciences

Professional Society Activities:

Committee Membership: American Physiological Society (APS): Membership Committee (91-93), APS Committee on Committees (93-96), APS Environmental/Exercise Steering Committee (93-96, 98-01), APS Women’s Committee (99-02), APS History of Physiology Section secretary and treasurer (01-present). Texas Chapter of the American College of Sports Medicine (TACSM): Steering Committee (94-99), TACSM president (98).

Reviewer: Am. J. Physiol., J. Appl. Physiol., Aviat. Space Environ Med., Gravitational Physiology, Int. J. Sports Med., Med. Sci Sports Exerc, Circulation.

Editorial Board: Aviat. Space Environ. Med. (94) and Am. J. Physiol. (97).

Presenter: FASEB, ACSM, and ASMA meetings. (abstracts available on request).

University Service Activities:

Institutional Review Boards (Johns Hopkins, UNM), UNM Press Committee (2002-present), numerous student dissertation committees.

Teaching Experiences:

Undergraduate students at Univ. of Missouri, St. Louis (Biology laboratory).

Graduate and Medical school students at St. Louis Univ (Physiology).

Nursing school students at College Park Nursing School (Anatomy and Physiology).

Undergraduate students at Quinapiak Community College (Exercise Physiology Laboratory).

Graduate and Medical students at Johns Hopkins University (Environmental Physiology, Endocrinology, Cardiovascular Physiology, Exercise Physiology).

Aerospace Physiologists at Brooks AFB (Aerospace Physiology).

Medical Interns in Aerospace Medicine Program at NASA

Kindergarden-fifth graders: SciAD program at NASA.

Designs for Fitness: 2002, 2003, UNM.

Scientific Writing, 2003, UNM

Exercise Testing and Interpretation, 2002, 2003, UNM

Body Composition, 2002, UNM

NASA Management Activities:

Institutional Review Board member, RTOP manager-cardiovascular, Bone Muscle Exercise Integrated Product Team (IPT) member, Extravehicular Activity (EVA) IPT member, Human Research Facility for ISS Program Scientist, Muscle Atrophy and Research Exercise System (MARES) Facility Science Team, Crew Health Care System (CheCS) Science Support, Technical Monitor (COTAR) for numerous extramural grants (e.g., Cleveland Clinic, Witmer Co.), Biannual Reviewer for the Small Business Innovative Research Program (SBIR), numerous public affair presentations.

PUBLICATIONS:

Book Chapters:

1. Nadel, E.R., S.M. Fortney, and C.B. Wenger. Circulatory adjustments during heat stress. In: Exercise Bioenergetics and Gas Exchange. R. Paoletti, Elsevier/North-Holland Biomedical Press, Amsterdam, 1980.

2. Lakatta, E.G., A.P. Goldberg, J.L. Fleg, S.M. Fortney, and D.T. Drinkwater. Reduced cardiovascular and metabolic reserve in older persons: Disuse, disease, or aging? In: Nutrition and Aging II: Health Promotion and Disease. Edited by D. Lipschitz and R. Chernoff, Raven Press, New York, 1986.
3. Fortney, S.M. Thermoregulatory adaptations to inactivity. In: Adaptive Physiology to Stressful Environment, Ed. by M. Yousef, CRC Press Inc., Florida, 1987.
4. Fortney, S.M. and E. Miescher. Changes in plasma volume during heat exposure in young and older men. National Academy of Sciences Publication of the proceedings of the Workshop on the Use of Carbohydrate-Electrolyte Solutions by Soldiers in the Field, Committee on Military Nutrition Research, February 16-17, 1989.
5. Fortney, SM, VS Schneider, JE Greenleaf. The Physiology of Bed Rest. Handbook of Physiology: Adaptation to the Environment, American Physiological Society Publ., 1996, pg. 889-939.
6. Fortney, SM. Hormonal control of fluid balance during exercise among women. In: Body fluid balance in exercise and sport. Ed. by. ER Buskirk, SM Puhl., CRC Press, Boca Raton, FL, 1996, pg. 239-266.
7. Schneider, SM and JE Greenleaf. Chapter 7: Thermoregulation, In: Deconditioning and Reconditioning, Humans in Stressful Environments. Taylor & Francis Books, in press.
8. Schneider, SM. Bed rest and orthostatic-hypotensive intolerance, In: Deconditioning and Reconditioning, Humans in Stressful Environments. Taylor & Francis Books, in press.
9. SMC Lee, ME Guilliams, SM Schneider. Exercise Countermeasures Demonstration Project During the Lunar-Mars Life Support Project, Phases IIa and III. Ed. by HW Lane, RL Sauer, DL Feedback. Univelt Inc., San Diego, CA, for the American Astronautica Society, 2002., pg 315-342.

Journal Articles:

1. Senay, L.C., Jr., and S. Fortney. Untrained females: effects of submaximal exercise and heat on body fluids. *J. Appl. Physiol.* 39: 643-647, 1975.
2. Fortney, S.M., and L.C. Senay, Jr.: Effect of training and heat acclimation on exercise responses of sedentary females. *J. Appl. Physiol.* 47: 978-984, 1979.
3. Nadel, E.R., S.M. Fortney, and C.B. Wenger. Effect of hydration state on circulatory and thermal regulations. *J. Appl. Physiol.: Respirat. Environ. Exercise Physiol.* 49: 915-921, 1980.

4. Fortney, S.M., E.R. Nadel, C.B. Wenger, and J.R. Bove. Effect of acute alterations of blood volume on circulatory performance in humans. *J. Appl. Physiol. Respirat. Environ. Exercise Physiol.* 50: 292-298, 1981.
5. Koivisto, V.A., S. Fortney, R. Hendler, and P. Felig. A rise in ambient temperature augments insulin absorption in diabetic patients. *Metabolism* 30: 402-405, 1981.
6. Fortney, S.M., V.A. Koivisto, P. Felig, and E.R. Nadel. Circulatory and temperature responses to exercise in a warm environment in insulin-dependent diabetics. *Yale J. Biol. and Med.* 54:101-109, 1981.
7. Fortney, S.M., E.R. Nadel, C.B. Wenger, and J.R. Bove. Effect of blood volume on sweating rate and body fluids in exercising humans. *J. Appl. Physiol.: Respirat. Environ. Exercise Physiol.* 51: 1594-1600, 1981.
8. Avellini, B.A., Y. Shapiro, S.M. Fortney, C.B. Wenger, and K.B. Pandolf. Effects of heat tolerance of physical training in water and on land. *J. Appl. Physiol.: Respirat. Environ. Exercise Physiol.* 53(5): 1291-1298, 1982.
9. Fortney, S.M., C.B. Wenger, J.R. Bove, and E.R. Nadel. Effect of plasma volume on forearm venous volume and cardiac output during exercise. *J. Appl. Physiol.: Respirat. Environ. Exercise Physiol.* 55(3): 884-890, 1983.
10. Fortney, S.M., C.B. Wenger, J.R. Bove, and E.R. Nadel. Effect of hyperosmolality on control of blood flow and body sweating. *J. Appl. Physiol.: Respirat. Environ. Exercise Physiol.* 57(6): 1688-1695, 1984.
11. Rock, J.A., S.M. Fortney. Medical and Surgical Considerations for Women in Spaceflight. *Obstet. and Gynecol Survey* 39(8): 525-535, 1984.
12. Vroman, N.B., W.S. Beckett, S. Permutt, S. Fortney. Effect of positive pressure breathing on the cardiovascular and thermoregulatory responses to exercise. *J. Appl. Physiol.: Respirat. Environ. Exercise Physiol.* 58: 876-881, 1985.
13. Fortney, S.M., and N.B. Vroman. Exercise Sports Performance and Temperature Control (a critical review of temperature regulation during exercise and implications for sports performance and training. *Sports Medicine* 2(1): 8-20, 1985.
14. Beckett, W.S., N.B. Vroman, D. Nigro, J.E. Wilkerson and S.M. Fortney. Effects of prolonged bedrest on lung volume in normal individuals. *J. Applied Physiol.* 61: 919-925, 1986.
15. Beckett, W.S., J.E. Davis, N. Vroman, R. Nadig, and S. Fortney. Heat stress associated with the use of vapor-barrier garments. *J. Occup. Med.* 28: 411-414, 1986.
16. Fortney, S.M., N.B. Vroman, W.S. Beckett, S. Permutt and N.D. LaFrance. Effect of exercise hemoconcentration and hyperosmolality on exercise responses. *J. Appl. Physiol.* 65: 519-524, 1988.

17. Fortney, S.M., W.S. Beckett, A.J. Carpenter, J. Davis, H. Drew, N.D. LaFrance, J.A. Rock, C.G. Tankersley, and N.B. Vroman. Changes in plasma volume during bedrest: effects of menstrual cycle and estrogen administration. *J. Appl. Physiol.* 65: 525-533, 1988.
18. Lightfoot, J.T., S. Febles, S.M. Fortney. Adaptation to repeated presyncopal lower body negative pressure exposures. *Aviat. Space Environ. Med.* 60: 17-22, 1989.
19. Hilton, F. J. Giordano, and S. Fortney. Case Report- Vasodepressor syncope induced by lower body negative pressure. *Aviat. Space Environ. Med.* 60: 61-63, 1989.
20. Fortney, S., E. Miescher, and B. Rolls. Body hydration and aging. *Progress in Biometeorology* 7: 105-115, 1989.
21. Miescher, M. and S.M. Fortney. Responses to dehydration and rehydration during heat exposure in young and older men. *Am. J. Physiol.* 257: R1050-R1056, 1989.
22. Lightfoot, J.T., R.P. Claytor, D.J. Torok, T.W. Journell, and S.M. Fortney. Ten weeks of aerobic training do not affect lower body negative pressure responses. *J. Appl. Physiol.* 67: 894-901, 1989.
23. Lightfoot, J.T., C. Tankersley, S.A. Rowe, A.N. Freed, S.M. Fortney. Automated blood pressure measurements during exercise. *Med. Sci. Sports Exerc.* 21: 698-707, 1989.
24. Tankersley, C.G., J. Smolander, W.L. Kenney, S.M. Fortney. Sweating and skin blood flow during exercise: effects of age and maximal oxygen uptake. *J. Appl. Physiol.* 71: 236-242, 1991.
25. Fortney, S.M., K.H. Hyatt, J.E. Davis, and J.M. Vogel. Changes in body fluid compartments during a 28-day bed rest. *Aviat., Space, Environ. Med.*, 62: 97-104, 1991.
26. Fortney, S.M. Development of lower body negative pressure as a countermeasure for orthostatic intolerance. *J. Clin. Pharmacol.* 31; 888-892, 1991.
27. Lightfoot, J.T., F. Hilton, and S.M. Fortney. Repeatability and protocol compatibility of presyncopal symptom limited LBNP exposures. *Aviat. Space Environ. Med.* 62: 19-25, 1991.
28. Melchior, FM and SM Fortney. Orthostatic intolerance during a 13-day bed rest does not result from increased leg compliance. *J. Appl. Physiol.* 74: 286-292, 1993.
29. Fortney, SM, CG Tankersley, JT Lightfoot, D. Drinkwater, J. Clulow, G. Gerstenblith, F. O'Connor, L. Becker, E. Lakatta, and J. Fleg. Cardiovascular responses to lower body negative pressure in trained and untrained older men. *J. Appl. Physiol.* 73: 2693-2700, 1992.

30. Aratow, M, S.M. Fortney, D.E. Watenpaugh, A.G. Crenshaw, and A.R. Hargens. Transcapillary fluid responses to lower body negative pressure with saline ingestion. *J. Appl. Physiol.* 74:2763-2770, 1993.
31. Fortney, SM, C Turner, L Steinmann, T Driscoll, and C. Alfrey. Blood volume responses of men and women to bed rest. *J. Clin. Pharmacol.* 34: 434-439, 1994.
32. Lightfoot, JT, SM Fortney, Occurrence of presyncope in subjects without ventricular innervation. *Clin. Sci.* 85: 695-700, 1993.
33. Fleg, JL., SP Schulman, FC O'Connor, G Gerstenblith, LC Becker, S Fortney, AP Goldberger, EG LaKatta. Cardiovascular responses to exhaustive upright cycle exercise in health trained older men. *J. Appl. Physiol.* 77: 1500-1506, 1994.
34. Goldberger, AL, JE Mietus, DR Rigney, ML Wood, SM Fortney. Effects of head-down bed rest on complex heart rate variability: response to LBNP testing. *J. Appl. Physiol.* 77: 2863-2869, 1994.
35. Bondar, RL, MS Kassam, F. Stein, PT Dunphy, S Fortney, ML Riedesel. Simultaneous cerebrovascular and cardiovascular responses during presyncope. *Stroke* 26: 1794-1800, 1995.
36. Lee, SMC, BS Bennett, AR Hargens, DE Watenpaugh, RE Ballard, G Murthy, SR Ford, and SM Fortney. Upright exercise or supine LBNP exercise maintains exercise responses after bed rest. *Med. Sci. Sports Exerc.* 29: 892-900, 1997.
37. Davis, JE and SM Fortney. Effect of fluid ingestion on orthostatic responses following acute exercise. *Int. J. Sports Med.* 18: 174-178, 1997.
38. McCarthy, JP, MM Bamman, JM Yelle, AD LeBlanc, RM Rowe, MC Greenisen, SMC Lee, ER Spector, SM Fortney,. Resistance exercise training and orthostatic response. *Eur. J. Appl. Physiol.* 76: 32-40, 1997.
39. Fortney, SM, V Mikhaylov, SMC Lee, Y Kobzev, RR Gonzalez, JE Greenleaf. Body temperature and thermoregulation during submaximal exercise after 115-day space flight. *Aviat. Space Environ. Med.* 69:137-41, 1998.
40. Lee, SMC, AD Moore, JM Fritsch-Yelle, MC Greenisen, SMF Schneider. Inflight exercise affects stand test responses after space flight. *Med. Sci. Sports Exerc.* 31:1755-1762, 1999.
41. Sawka MN, VA Convertino, ER Eichner, SM Schneider, AJ Young. Blood volume: importance and adaptations to exercise training, environmental stresses and trauma/sickness. *Med. Sci. Sports Exerc* 32:332-48, 2000.
42. Watenpaugh, DE, RE Ballard, SM Schneider, SMC Lee, AC Ertl, JM William, WL Boda, KJ Hutchinson, AR Hargens. Supine lower body negative pressure exercise

- during bed rest maintains upright exercise capacity in men. *J. Appl. Physiol.* 89:218-227, 2000.
43. Lee, SMC, PA Bishop, LL Clapp, WJ Williams, SM Schneider, MC Greenisen. Simulated shuttle egress: role of helmet visor position during re-entry and protective garment selection. *Aviat. Space Environ Med.* 72: 484-489, 2001.
 44. Lee SMC, PA Bishop, SM Schneider, MC Greenisen. Simulated shuttle egress: comparison of two space shuttle protective garments. *Aviat. Space Environ. Med.*, 72: 110-114, 2001.
 45. Lee, SMC, WJ Williams, Suzanne MF Schneider. Core temperature measurement during supine exercise: esophageal, rectal and intestinal temperatures. *Aviat. Space Environ. Med.* 71: 939-45, 2000.
 46. Moore, AD, SMC Lee, JB Charles, MC Greenisen, and SM Schneider. Maximal exercise as a countermeasure to orthostatic intolerance following spaceflight. *Med. Sci. Sports Exerc* 33:75-80, 2001.
 47. Harm, D.L., R.T. Jennings, J.V. Meck, M.R. Powell, L. Putcha, C.P. Sams, S.M. Schneider, L.C. Shackelford, S.M. Smith, and P.A. Whitson. Invited Review: Gender issues related to spaceflight: a NASA perspective. *J. Appl. Physiol.* 91: 2374-2383, 2001.
 48. Lee, S.M.C., W.J. Williams, and S.M. Schneider. Role of skin blood flow and sweating rate in exercise thermoregulation after bed rest. *J. Appl. Physiol.* 92:2026-2034, 2002.
 49. Schneider, S.M., D.E. Watenpugh, S.M.C. Lee, A.C. Ertl, J. Williams, R.E. Ballard, and A.R. Hargens. Exercise against lower body negative pressure during bed rest and orthostatic tolerance. *Med. Sci. Sports Exerc.* 34:1446-1453, 2002.
 50. Williams, JW, SMC Lee, CA Stuart, PA Whitson, SM Schneider. Dietary sodium and the cardiovascular response to LBNP and standing during bed rest. *Aviat Space Environ. Med.* 74:37-46, 2003.
 51. Hilliard-Robertson, P.C., S.M. Schneider, S.L. Bishop, M.E. Guilliams. A comparison of strength gains following combined concentric and eccentric exercise regimens. In press, *Aviat. Space Environ. Med.* 74:342-347, 2003.
 52. Lee, S.M.C., K. Cobb, J.A. Loehr, D. Nguyen, and S.M. Schneider. Footward force during resistance exercise in parabolic flight. In Review, *Aviat. Space Environ. Med.*
 53. Schneider, S.M., W.E. Amonette, K. Blazine, J. Bentley, S.M.C. Lee, J.A. Loehr, A.D. Moore, M. Rapley, E.R. Mulder, and S.M. Smith. Training with the International Space Station interim Resistive Exercise Device. In press, *Med. Sci. Sports Exerc.*

Reports:

1. Fortney, S.M. Bedrest in healthy women: effects of menstrual function and oral contraceptives. Final report: NASA contract # NAS9-16703, NAS9-17199, December, 1985.
2. Fortney, S.M., S.J. Lees, W. Beckett, P.N. Breysee, C. Turner, and N.Vroman. Interim Report on Asbestos exposure and heat stress of GSA steam tunnel personnel for the Accident and Fire Branch General Services Administration, July 1, 1982-April 1, 1983.
3. Fortney, S.M., W.S. Beckett, C.G. Tankersley, and J.E. Davis. Final report: Effectiveness of ice vests in reducing heat strain during work in hot/dry conditions. for Accident and Fire Branch General Services Administration, December 12, 1984.
4. Fortney, S.M., J.T. Lightfoot, C. Tankersley, and S. Rowe. Final Report: Exercise in CF: Therapy and test of autonomic function. for Cystic Fibrosis Foundation. CF Grant #G135 7, May 1, 1985 to April 30, 1987.
5. Fortney, SM, L. Dussack, T Rehbein, M Wood, and L. Steinmann. Effect of prolonged LBNP and saline ingestion on plasma volume and orthostatic responses during bed rest. Conference Report from the Joint Cardiopulmonary Workshop, December 6 and 7, 1990. Houston, Texas.
6. Fortney, S.M. Exercise thermoregulation: possible effects of spaceflight. Conference Report, 21st International Conference on Environmental Systems (ICES), July 15-18, 1991.
7. Greenleaf, JE and SM Fortney. Thermoregulation during Spaceflight. NASA TM 103913, January, 1992.
8. Lee SM, ME Guillian, MD Moore Jr., WJ Williams, MC Greenisen, and SM Fortney. Exercise countermeasures demonstration project during the Lunar-Mars Life Support Test Project Phase IIA. NASA/TP-98-206537, January 1998.
9. Lee SM, WJ Williams, SM Schneider. Core temperature measurement during submaximal exercise: esophageal, rectal, and intestinal temperatures. NASA/TP-2000-210133, April 2000.
10. Woodruff, KK, SMC Lee, MC Greenisen, SM Schneider. Skin temperatures during unaided egress: unsuited and while wearing the NASA launch and entry or advanced crew escape suits. NASA/TM-2000-209761, 2000.
11. Woodruff, KK, AN Johnson, SMC Lee, M Gernhardt, SM Schneider, PP Foster. A pilot study for applying an extravehicular activity exercise prebreathe protocol to the International Space Station. NASA/TM-2000-210132, 2000.

12. Lee, SMC, AD Moore, JM Fritsch-Yelle, M. Greenisen, SM Schneider, PP Foster. Effect of in-flight exercise and extravehicular activity on postflight stand tests. NASA/TM-2000-210185, 2000.
13. Loehr, J.A., S.M.C. Lee, and Suzanne Schneider. Use of a slick-plate as a contingency exercise surface for the treadmill with vibration isolation system. NASA/TM-2003-210789. Feb, 2003.
14. Rapley, MG; SMC Lee, ME Guilliams, MC Greenisen, SM Schneider. Heat production during countermeasure exercises planned for the International Space Station. In press.