Patricia A. Schoknecht

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EDUCATION

Ph.D. 1991 **Animal Science** **Cornell University**
Minors: Physiology and Nutrition
Dissertation: Endocrine Regulation of Late Gestation Ovine Fetal Growth
M.S. 1984 **Zoology** **Virginia Polytechnic Institute and State University**
Thesis: Teat Ownership Theory, Growth, and Lactation in the Domestic Ferret
B.S. 1981 **Zoology** **George Washington University**
Honors Thesis: Growth and Teat Ownership in the Binturong

EMPLOYMENT

2000-present Director, Teaching, Learning & Technology and Associate Professor of Biology, University of Richmond, VA
2000-present Visiting Associate Professor, Rutgers University, Dept. of Animal Sciences, New Brunswick, NJ
1999-2000 Associate Professor, Rutgers University, Dept. of Animal Sciences, New Brunswick, NJ
1993-1999 Assistant Professor, Rutgers University, Dept. of Animal Sciences, New Brunswick, NJ
1991-1993 Research Physiologist, USDA/ARS Children's Nutrition Research Center, Houston, TX.
1986-1990 Graduate Research Assistant, Cornell University, Ithaca, NY
1984-1986 Biology Teacher, Prince Edward County High School, Farmville, VA
1982-1984 Graduate Research Assistant, VPI & SU, Blacksburg, VA
1981-1982 Research Associate National Zoological Park, Front Royal, VA

GRADUATE STUDENTS and POSTDOCTORAL FELLOWS

In progress

James Lechner	MS	Committee Chair, expected completion: December, 2001

Completed

Steven Radecki	Postdoctoral Fellow, 1996	
Bonnie Altizio	MS	Committee member, 2001
Yanxin Wang	PhD	Committee Chair, 1999
Thushara Chandrasi	PhD	Committee member, 1999
Angela Black	PhD	Committee Co-Chair, 1998
Gretchen Ritacco	MS	Committee Chair, 1996
Kathleen Ohleth	PhD	Committee member, 1997
Michelle Lane	PhD	Committee member, 1996
Zenchung Dong	MS	Committee member, 1996
Marc Rosner	MS	Committee member, 1995

GRANTS AWARDED

Education/Curriculum Development

1999-2001 Promoting Cooperation in Creation and Use of Shared Computer-Teaching Technologies**,** $285,762, USDA Higher Education Challenge Grant; co-Principal Investigator.

1999-2000 Development of a Cooperative Course in Animal Nutrition, $129,233; Agricultural Telecommunications Program, ADEC/USDA, Principal Investigator.

1999-2000 Development of case studies on the WWW to improve teaching in "Perspectives in Agriculture and the Environment", $5,000, Cook College, Rutgers University; Principal Investigator.

1999 Development of a National Animal Science Image Gallery, $2500; American Society of Animal Science, Principal Investigator.

1999 Digital Video Imaging in Animal Science, $700; New Brunswick Instructional Technology Faculty Support Committee, Rutgers University, PI.

1997-1999 Development of Multimedia Instructional Materials in Animal Nutrition, $233,294, USDA Higher Education Challenge Grant; Principal Investigator.

1996-1997 Development of Multimedia Instructional Modules in Agricultural and Life Sciences, $5,000, Undergraduate Curriculum Seed Grant, Rutgers University; PI.

1995-1996 Modelling Nutrient Metabolism in Ruminant and Nonruminant Animals, $6,000, Lilly Teaching Endowment, Principal Investigator.

1994-1995 Gastrointestinal Tract Preparations as Teaching Aids, $3,000, Teaching Excellence Center, Rutgers University; Principal Investigator.

Kellogg Regional Project

1998-2001 Regionalization of Programs in the MidAtlantic and Northeast to Enhance the Quality and Accessibility of Education in Animal Science, $254,250; matching funds bring total to $2.606 million, MidAtlantic Consortium of the Kellogg Foundation Food Systems Professionals Education Initiative; Primary Author and Co-Principal Investigator.

1995-1996 Planning Grant for Five Workshops including 16 Colleges and Universities: The Future of Undergraduate Education in the Animal Sciences, $10,269, W.K. Kellogg Foundation; Primary Author and Co-Principal Investigator.

Research

1998-1999 Analysis of Bone Metabolites in Babirusa to Predict Onset of Locomotion Problems, $1,000; Species Survival Fund, Co-Principal Investigator.

1997-1999 Nutritional Regulation of Brush Border Hydrolase Synthesis, $145,687, USDA/NRI; Co-Investigator.

1996-1997 Changes in Bone Turnover and Growth Plate Biochemistry during Growth and in response to High Energy Diets, Exercise and Developmental Orthopedic Disease, $30,000, Equine Special Initiative; Co-Principal Investigator.

1996-1997 Compensatory Growth in the Runt Pig, $1,000, Research Council Award, Rutgers University; Principal Investigator.

1995-1996 Effects of Growth, Exercise and High Energy Diets on Bone Turnover, Growth Plate Cartilage Metabolism and the Induction of Osteochondrosis in Weanlings, $52,750, Equine Special Initiative, Co-Principal Investigator.

1994-1999 Regulation of Neonatal Growth by Insulin-like Growth Factor-I in Swine, Cooperative State Research Service Hatch Award, Principal Investigator.

1994-1996 The Developmental Pattern of IGF-I Production in the Runt Piglet, $8,393, Busch Biomedical Research Award, Rutgers University; Principal Investigator.

1994-1995 IGF-I and Growth in the Runt Piglet, $2,500, Research Council Award, Rutgers University; Principal Investigator.

1994 Identification of Young Horses at Risk of Developmental Orthopedic Disease, $10,000, Equine Special Initiative; Co-Principal Investigator.

HONORS

2000 Susman Award for Excellence in Teaching, Rutgers University
2000 Student Leadership Award, Cook College, Rutgers University
1999 Professor of the Year, Alpha Zeta, Rutgers University
1998 Educational Infrastructure Builder Award, ADEC
1998 Student Leadership Award, Cook College, Rutgers University
1998 Team Award, Cook College, Rutgers University
1997 Teaching Excellence Award, Cook College, Rutgers University
1995-1996 Lilly Teaching Fellow, Rutgers University
1991-1993 USDA/ARS Competitive Post-doctoral Fellow
1990 Outstanding Graduate Student Teaching Award, Cornell University

PROFESSIONAL ACTIVITIES

Society Memberships: American Society of Animal Science
American Society of Nutritional Sciences
Comparative Nutrition Society
National Association of Colleges and Teachers of Agriculture
Sigma Xi, The Research Society

Review Panel: ADEC Agricultural Telecommunications Program 1999-2001

ELECTIONS

2000-2001 President, Northeast Branch of the American Society of Animal Science
1999-2000 Vice President, Northeast Branch of the American Society of Animal Science
1998-1999 Secretary/Treasurer, Northeast Branch of the American Society of Animal Science
1994 Full Membership, American Society of Nutritional Sciences
1989-1990 President of the Women in Math, Science, and Engineering Task Force
1989 Chair of Expanding Your Horizons Conference
1987-1988 President of Animal Science Graduate Student Association

Ad Hoc Reviewer: USDA/NRI Improving Animal Growth 1997-2000
Journal of Animal Science
Journal of Nutrition

Editorial Board: Journal of Animal Science 1994-1997

Chair American Society of Animal Science symposium "Inter-institutional cooperation in education: present programs and future models" July 1999

Co- Chair American Society of Animal Science symposium "Multiple media in teaching nutrition or dairy foods - keeping the touch in technology" July 1998

Member American Society of Animal Science, National Meeting Program Committee/Teaching, 1997-present

Member American Society of Animal Science, Committee on Teaching using the WorldWide Web, 1996-1997

Chair American Society of Animal Science symposium “Swine nutrition: Nutrient usage in pregnancy and early postnatal growth”, July, 1996

Co-chair American Institute of Nutrition minisymposium "Endocrine and metabolic regulation of growth" at Experimental Biology ‘96, April 1996

PUBLICATIONS

Dudley, M.A., **P. A. Schoknecht**, A.W. Dudley, L. Jiang, R.P. Ferraris, J. Rosenberger, J.F. Henry, and P.J. Reeds. 2001. Lactase synthesis is pre-translationally regulated in protein-deficient pigs fed a protein-sufficient diet. Amer. J. Physiol. 280:G621-G628.

Altizio, B.A., M.L. Westendorf, and **P.A. Schoknecht**. 2001. Comparison of a corn/soybean diet versus a dried, recycled food waste product in swine. Prof. Anim. Scientist 15: 17-22.

Black, A., **P.A. Schoknecht,** S.L. Ralston, and S.A. Shapses. 1999. Diurnal variation and age differences in biochemical markers of bone turnover in horses. J. Anim. Sci. 77:75-83.

Wang, Y., S.K. Fried, R.N. Petersen, and **P.A. Schoknecht**. 1999. Somatotropin regulates adipose tissue metabolism in neonatal swine. J. Nutr. 129:139-145.

Westendorf, M.L., Z.C. Dong, and **P.A. Schoknecht.** 1998. Recycled cafeteria food waste as a feed for swine: nutrient content, digestibility, growth, and meat quality. J. Anim. Sci. 76:2976-2983.

Stancel, C.F., E.S. Dierenfeld, and **P.A. Schoknecht**. 1998. Calcium and phosphorus supplementation decrease growth, but do not induce pyramiding, in young red-eared sliders, Trachemys scripta elegans. Zoo Biol. 17:17-24.

Schoknecht, P.A. 1997. Swine nutrition: nutrient usage during pregnancy and early postnatal growth, an introduction. J. Anim. Sci. 75:2705-2707.

Schoknecht, P.A., S.E. Ebner, A. Skottner, D.G. Burrin, T.A. Davis, K. Ellis and W.G. Pond. 1997. Exogenous insulin-like growth factor-I increases weight gain in intrauterine growth retarded neonatal pigs. Pediatr. Res. 42:201-207.

Burrin, D.G., T.A. Davis, S. Ebner, **P.A. Schoknecht,** M.L. Fiorotto, and P.J. Reeds. 1997. Colostrum enhances the nutritional stimulation of vital organ protein synthesis in neonatal pigs. J. Nutr. 127:1284-1289.

Ritacco, G.M., S.V. Radecki, and **P.A. Schoknecht**. 1997. Compensatory growth in the runt pig is not mediated by IGF-I. J. Anim. Sci. 75:1237-1243.

Schoknecht, P.A., M.A. McGuire, W.S. Cohick, W.B. Currie, and A.W. Bell. 1996. Effect of chronic infusion of placental lactogen on ovine fetal growth in late gestation. Dom. Anim. Endocr. 13:519-528.

Pond, W.G., L.P. Krook, H. Ho, D. Su, and **P.A. Schoknecht.** 1996. Bone density and tissue lead accretion in growing rats fed low or high calcium with or without supplemental clinoptilolite. Bull. Environ. Contam. Toxicol. 57:713-721.

Lu, C.D., **P.A. Schoknecht,** K.J. Ellis, R. Shypailo, D-R. Su, and W.G. Pond. 1996. Differential compensatory organ growth in young pigs after short-term rehabilitation from protein deficiency. Nutr. Res. 16:627-637.

Fiorotto, M.L., T.A. Davis, **P. Schoknecht,** H.J. Mersmann, and W.G. Pond. 1995. Both maternal over- and undernutrition during gestation increase the adiposity of young adult progeny in rats. Obesity Res. 3:131-142.

Burrin, D.G., T.A. Davis, S. Ebner, **P.A. Schoknecht,** M.L. Fiorotto, P.J. Reeds, and S. McAvoy. 1995. Nutrient-dependent and nutrient-independent factors stimulate protein synthesis in colostrum-fed newborn pigs. Pediatr. Res. 37:593-599.

Ellis, K.J., R. Shypailo, **P.A. Schoknecht,** and W.G. Pond. 1995. Neutron activation analysis: criterion method for evaluation of dual-energy x-ray absorptiometry measurements in infants. J. Radioanal. and Nuclear Chem. 195:139-144.

Schoknecht, P.A., S. Ebner, W.G. Pond, S. Zhang, V. McWhinney, W.W. Wong, P.D. Klein, M. Dudley, J. Goddard-Finegold, and H.J. Mersmann. 1994. Dietary cholesterol supplementation improves growth and behavioral responses of pigs selected for genetically high and low serum cholesterol. J. Nutr. 124:305-314.

Schoknecht, P.A., G.R. Newton, D.E. Weiss and W.G. Pond. 1994. Protein restriction in early pregnancy alters fetal and placental growth and allantoic fluid proteins in swine. Theriogenology 42:217-226.

Schoknecht, P.A., W.G. Pond, K.J. Ellis, R. Shypailo, M. Fiorotto, and L. Krook. 1994. Morphology and cellularity of brain and visceral organs of severely undernourished baby pigs are restored after eight weeks of refeeding. Nutr. Res. 148:841-849.

Ebner, S., **P.A. Schoknecht,** and D.G. Burrin. 1994. Growth and metabolism of gastrointestinal and skeletal muscle tissues in protein-malnourished neonatal pigs. Amer. J. Physiol. 266:R1736-R1743.

Pond, W.G., **P.A. Schoknecht,** M.L. Fiorotto, L. Walton, V. Tran, T.A. Davis and H.J. Mersmann. 1994. Differential nutrient partitioning in pregnant rat dams fed restricted amounts of a balanced diet versus restricted nonprotein calories. Nutr. Res. 14:1067-1076.

Schoknecht, P.A. and W.G. Pond. 1993. Short-term ingestion of a high protein diet increases liver and kidney mass and protein accretion but not cellularity in young pigs. P.S.E.B.M. 203:251-254.

Schoknecht, P.A., W.G. Pond, H.J. Mersmann, and R.R. Maurer. 1993. Protein restriction during pregnancy affects postnatal growth in swine progeny. J. Nutr. 123: 1818-1825.

Pond, W.G., H.J. Mersmann, P.D. Klein, L.L. Ferlic, W.W. Wong, D.L. Hachey, **P.A. Schoknecht,** and S. Zhang. 1993. Body weight gain is correlated with serum cholesterol at 8 weeks of age in pigs selected for four generations for low or high serum cholesterol. J. Anim. Sci. 71:2406-2411.

Pond, W.G., K.J. Ellis, L.P. Krook, and **P.A. Schoknecht.** 1993. Modulation of dietary lead toxicity in pigs by clinoptilolite. In: Zeolite '93, 4th International Conference on the Occurrence, Properties, and Utilization of Natural Zeolites. International Committee on Natural Zeolites, SUNY-College at Brockport, Brockport, NY, pp. 170-172.

Schoknecht, P.A., W.B. Currie, and A.W. Bell. 1992. Kinetics of placental lactogen in mid- and late-gestation ovine fetuses. J. Endocrinology 133:95-100.

Wickham, G.A., **P.A. Schoknecht,** W.B. Currie, A.W. Bell, and S.N. McCutcheon. 1992. Suppression of secondary wool follicle initiation by administration of placental lactogen to ovine fetuses. Proc. NZ Soc. of Anim. Prod. 52:277-279.

Pond, W.G., K.J. Ellis, **P.A. Schoknecht**. 1992. Response of blood serum constituents to production of and recovery from a kwashiorkor-like syndrome in the young pig. P.S.E.B.M. 200:555-561.

Schoknecht, P.A., S.N. Nobrega, J.A. Petterson, R.A. Ehrhardt, R. Slepetis, and A.W. Bell. 1991. Relations between maternal and fetal plasma concentrations of placental lactogen and placental and fetal weights in well-fed ewes. J. Anim. Sci. 69:1059-1063.

Vatnick, I., **P.A. Schoknecht,** R. Darrigrand, and A.W. Bell. 1991. Growth and metabolism of the placenta after unilateral fetectomy in twin pregnant ewes. J. Develop. Physiol. 15:351-356.

Bell, A.W., R. Slepetis, **P.A. Schoknecht,** and I. Vatnick. 1988. Nutritional and placental influences on prenatal growth in sheep. Proc. Cornell Nutr. Conf. pp. 103-108.

Schoknecht, P.A., J.A. Cranford, and R.M. Akers. 1985. Variability in milk composition of the domestic ferret (Mustela putorius). Comp. Biochem. Physiol. 81A:589-591.

Schoknecht, P.A. 1984. Growth and teat ownership in a litter of binturongs. Zoo Biol. 3:273-277.

ABSTRACTS

Schoknecht, P.A. and H.D. Hafs. 2001. Teaching Animal Nutrition Online. J. Anim. Sci. 79 (Suppl. 1): in press.

Lechner, J.A., J.E. Wohlt, R. Govindasamy, and **P.A. Schoknecht**. 2001. Butcher shop survey of goat meat consumption in New Jersey. J. Anim. Sci. 79 (Suppl. 1): in press.

Lechner, J.A., J.E. Wohlt, **P.A. Schoknecht**. 2001. Effects of iron or grain supplementation on the growth, feed efficiency, and meat characteristics of dairy goat kids. J. Anim. Sci. 79 (Suppl. 1): in press.

Altizio, B.A., J.E. Wohlt, and **P.A. Schoknecht**. 2000. Nutrient content of spent microbrewery grains and variation with pub and brew type. J. Anim. Sci. 78 (Suppl. 1): 223.

Altizio, B.A., J.E. Wohlt, **P.A. Schoknecht**, and M.L. Westendorf. 2000. Replacement value of wet microbrewery grains in swine finishing diets. J. Anim. Sci. 78 (Suppl. 1): 130.

Schoknecht, P.A. and H.D. Hafs. 1999. Regionalization within the Northeast and MidAtlantic: today's reality and tomorrow's vision. J. Anim. Sci. 77 (Suppl. 1): 273.

Dahl, G.E. and **P.A. Schoknecht**. 1999. A regional approach to career seminar in animal science. J. Anim. Sci. 77 (Suppl. 1): 273.

Wang, Y.X., S.K. Fried, and **P.A. Schoknecht.** 1999. Somatotropin regulates glucose transport in adipose tissue from neonatal swine. FASEB J. 13.

Altizio, B.A., **P.A. Schoknecht,** M.L. Westendorf. 1998. Growing swine prefer a corn/soybean diet over dry, processed food waste. J. Anim. Sci. 76 (Suppl. 1):185.

Ralston, S.L., A. Black, L. Suslak-Brown, **P.A. Schoknecht.** 1998. Postprandial insulin resistance associated with osteochondrosis dessicans in weanling fillies. J. Anim. Sci. 76 (Suppl. 1):176

Wang, Y.X., S.K. Fried, R.N. Petersen, and **P.A. Schoknecht.** 1998. Somatotropin regulates lipoprotein lipase and fatty acid synthase activity in adipose tissue from neonatal swine. J. Anim. Sci. 76 (Suppl. 1):124.

Kearns, C.F., K. Kurash, and **P.A. Schoknecht**. 1998. Carcass composition of runt pigs during compensatory growth. FASEB J. 12:A851.

Black, A., S.L. Ralston, S.A. Shapses, L. Suslak-Brown, and **P.A. Schoknecht.** 1997a. Skeletal growth patterns in Standardbred foals from birth to 1 year. Proc. Equine Nutr & Physiol. Symp. 15:326-327.

Black, A., S.L. Ralston, S.A. Shapses, and **P.A. Schoknecht.** 1997b. Skeletal development in weanling horses in response to high dietary energy and exercise. J. Anim. Sci. 74 (Suppl. 1):170.

Stancel, C.F., E.S. Dierenfeld, and **P.A. Schoknecht.** 1997. Pyramiding is not caused by excess calcium and/or phosphorus in young Red-eared sliders, Trachemys scripta elegans. Zoo & Wildlife Nutr.

Wang, Y.X., S.K. Fried, and **P.A. Schoknecht.** 1997. Somatotropin decreases lipid synthesis from glucose in adipose tissue of neonatal pigs. J. Anim. Sci. 74(Suppl. 1):164.

Ritacco, G.M. and **P.A. Schoknecht.** 1995. Growth of the runt piglet: the interaction of nutrition and IGF-I. J. Anim. Sci. 73(Suppl. 1):139.

Schoknecht, P.A., S. Ebner, A. Skottner, D.G. Burrin, T.A. Davis, and W.G. Pond. 1995. The interaction of pregnancy nutrition and neonatal growth in swine: role of IGF-I. J. Anim. Sci. 73(Suppl.):143.

Lu, C.D., W. G. Pond, **P.A. Schoknecht,** R. Shypailo, D.R. Su, and K.J. Ellis. 1994. Changes in body composition and blood metabolites during protein depletion and repletion in genetically obese early-weaned pigs. J. Anim. Sci. 72(Suppl. 1):259.

Schoknecht, P.A., S. Ebner, A. Skottner, D.G. Burrin, T.A. Davis, and W.G. Pond. 1993. Exogenous IGF-I increases early neonatal weight gain in progeny of protein-restricted sows. J. Anim. Sci. 71(Suppl. 1):134.

Schoknecht, P.A., S. Ebner, W.G. Pond, and J. Goddard-Finegold. 1993. Genetically low cholesterol is associated with reduced exploratory behavior in neonatal piglets. FASEB J. 7 (4, Part II):A647.

Burrin, D.G., S. Ebner, T.A. Davis, **P.A. Schoknecht,** M.F. Fiorotto, and P.J. Reeds. 1993. Visceral organ protein synthesis in neonatal pigs fed milk, colostrum, and fortified milk. FASEB J. 7(4, Part I):A152.

Ebner, S., D.G. Burrin, **P.A. Schoknecht,** and P.J. Reeds. 1993. Metabolic and hormonal changes in protein-malnourished neonatal pigs. FASEB J. 7(4, Part I):A175.

Schoknecht, P.A. and W. G. Pond. 1992. Short-term feeding of a high protein diet affects liver and kidney mass in piglets. J. Anim. Sci. 70(Suppl. 1):196.

Schoknecht, P.A., M.A. McGuire, W.S. Cohick, W.B. Currie, and A.W. Bell. 1992. The effect of placental lactogen infusion on serum IGF-I and IGFBP-2 concentrations in the late gestation ovine fetus. J. Anim. Sci. 70(Suppl. 1):212.

Schoknecht, P.A., W.G. Pond, G.R. Newton, and D.W. Weise. 1992. Effect of protein restriction during early gestation on fetal pigs. FASEB J. 6(5, Part II):A1940.

Weise, D.W., G.R. Newton, **P.A. Schoknecht,** and W.G. Pond. 1992. Effect of maternal protein restriction on conceptus and endometrial proteins in swine. FASEB J. 6(5, Part II):A1941.

Pond, W.G., H.J. Mersmann, P.D. Klein, W.W. Wong, D. Hachey, and **P.A. Schoknecht.** 1992. Growth response to dietary cholesterol in fourth generation pigs selected for low serum cholesterol. FASEB J. 6(4, Part I):A1081.

Ebner, S., D.G. Burrin, **P.A. Schoknecht,** and P.J. Reeds. 1992. Effect of dietary protein level on growth and metabolism of portal drained viscera in neonatal pigs. FASEB J. 6:(4, Part I):A1377.

Schoknecht, P.A., W.B. Currie, and A.W. Bell. 1990. The effect of placental lactogen infusion on ovine fetal growth in late gestation. J. Anim. Sci. 68(Suppl 1):289.

Schoknecht, P.A., R. Slepetis, and A.W. Bell. 1990. Effect of exogenous insulin on growth of the sheep fetus. FASEB J. 4:A1079.

Schoknecht, P.A., W.B. Currie, and A.W. Bell. 1989. Kinetics of placental lactogen in fetal sheep. J. Anim. Sci. 67(Suppl. 1):200-201.

Vatnick, I., **P.A. Schoknecht,** R. Darrigrand, and A.W. Bell. 1989. Placental growth after unilateral fetectomy in twin-pregnant ewes. FASEB J. 3:A1137.