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## BIOGRAPHICAL SKETCH

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NAME Mark Allen Suckow		POSITION TITLE Director, Research Animal Resources; Professor, Veterinary Population Medicine University of Minnesota	
EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)			
INSTITUTION AND LOCATION	DEGREE (if applicable)	YEAR(s)	FIELD OF STUDY
University of Wisconsin, Milwaukee	B.S.	1981	Zoology
University of Wisconsin, Madison	D.V.M.	1987	Veterinary Medicine
University of Michigan		1990	Comparative Medicine

### A. Personal Statement

My research interests have focused on in vivo modeling for a wide variety of applications, including evaluation of biomaterials for both soft tissue and hard tissue use. Much of this work is done in collaboration with other scientists. I have extensive experience with small animal surgical models, and have edited several volumes with respect to animal research models.

### B. Positions and Honors.

#### Positions and Employment

- 1987 – 1990 Postdoctoral Resident, University of Michigan, Unit for Laboratory Animal Medicine, Ann Arbor, MI
- 1990 – 1998 Assistant Director, Purdue University, Laboratory Animal Program, West Lafayette, IN
- 1998 – 2015 Director, Freimann Life Science Center, Associate Research Professor of Biological Sciences, Associate Vice President for Research (Compliance) University of Notre Dame, Notre Dame
- 2015 – 01/2019 Director, Research Animal Resources; Professor, Veterinary Population Medicine, University of Minnesota.
- 02/2019 - Associate Vice President for Research; Professor, Department of Biomedical Engineering; Attending Veterinarian, University of Kentucky.

#### Other Experience and Professional Memberships

Editorial Advisory Boards: *American Journal of Veterinary Research* 1993-1995; *Laboratory Animal Welfare Compliance* 2010-Present. Science Advisory Committees: Cook Biotech, Inc. 2003-Present; BioScience Vaccines, Inc. 2010-Present. Editor of *The Laboratory Rat*, Elsevier, Inc. 2006. Diplomate, American College of Laboratory Animal Medicine, 1990 – Present. President, American Association for Laboratory Animal Science, 2006. Council on Accreditation, Association of Assessment and Accreditation of Laboratory Animal Care, International 2009-Present. Council on Research, American Veterinary Medical Association, 2014-present.

Expertise in cancer models, wound healing, biomaterials evaluation.

#### Honors

Young Investigator Award, American Association for Laboratory Animal Science, 1996  
ASLAP Excellence in Laboratory Animal Research Award, 1998

### C. Selected Peer-Reviewed Publications (from 81 Peer-Reviewed Publications)

1. **Suckow MA**, Bowersock TL, Nielsen K, Grigdesby CF. Enhancement of Respiratory Immunity to *Pasteurella multocida* by Cholera Toxin in Rabbits. *Laboratory Animals* 30:120-126, 1996.
2. **Suckow MA**, Bowersock TL, Park H, and Park K. Oral Immunization of Rabbits Against *Pasteurella multocida* with an Alginate Microsphere Delivery System. *Journal of Biomaterials Science: Polymer Edition* 8:131-139, 1996.
3. **Suckow MA** and Douglas FA. 1997. *The Laboratory Rabbit*. Suckow MA (ed.), CRC Press, Boca Raton.
4. **Suckow MA**, Harbin SL, Terill LA, Badylak SF. Stimulation of Long Bone Growth by Porcine Small Intestinal Submucosa. *Journal of Investigative Surgery*, 12:277-287, 1999.
5. Confer AW, **Suckow MA**, Montelongo M, Dabo SM, Miloscio LJ, Gillespie AJ, Meredith GL. Intranasal Vaccination of Rabbits with *Pasteurella multocida* A:3 Outer Membranes That Express Iron-Regulated Proteins. *American Journal of Veterinary Research*, 62:697-703, 2001.
6. **Suckow MA**, Jarvinen LS, HogenEsch H, Park K, and Bowersock TL. Immunization of Rabbits Against a Bacterial Pathogen with an Alginate Microparticle Vaccine. *Journal of Controlled Release*, 85:227-235, 2002.
7. **Suckow MA**, Brammer DW, Rush HG, and Chrisp CE. Biology and diseases of rabbits. 2002. Pp. 329-364. In: Fox JG, Anderson LC, Loew FM, and Quimby FW (ed.), *Laboratory Animal Medicine*, 2<sup>nd</sup> Edition. Academic Press, San Diego.
8. **Suckow MA**, Gutierrez LS, Risatti CA, Wolter WR, Taylor RE, Pollard M, Navari RM, Castellino FJ, Paoni NF. The Anti-Ischemia Agent Ranolazine Promotes The Development of Intestinal Tumors in APC<sup>(Min/+)</sup> Mice. *Cancer Letters*, 209:165-169, 2004.
9. **Suckow MA**, Wolter WR, Pollard M. Prevention of autochthonous prostate cancer by immunization with tumor-derived vaccines. *Cancer Immunology and Immunotherapy*, 54:571-576, 2005.
10. **Suckow MA**, Wolter W, Pollard M. Susceptibility of Lobund-Wistar x Copenhagen hybrid rats to autochthonous prostate carcinogenesis. *Prostate*, 64:203-208, 2005.
11. Datta MW, **Suckow MA**, Twigger S, Pollard M, Jacob H, Tonellato PJ. Using comparative genomics to leverage animal models in the identification of cancer genes. Examples in prostate cancer. *Cancer Genomics & Proteomics*, 2:137-144, 2005.
12. Heinrich JE, Pollard M, Wolter WA, Liang Z, Song H, Rosen ED, **Suckow MA**. Vaccination against prostate cancer using a live tissue factor-deficient cell line in Lobund-Wistar rats. *Cancer Immunology Immunotherapy* 56:725-730, 2007.
13. **Suckow MA**, Rosen ED, Wolter WR, Sailes V, Jeffrey R, Tenniswood M. Prevention of human PC-346C prostate cancer growth in mice by a xenogeneic vaccine. *Cancer Immunology Immunotherapy* 56:1275-1283, 2007.
14. **Suckow MA**, Heinrich JE, Rosen ED. Tissue vaccines for cancer. *Expert Review of Vaccines* 6:925-937, 2007.
15. Kamocka M, Pollard M, **Suckow M**, Mielicki WP, Rosen ED. Rat Prostate tumors express cancer procoagulant, an activator of coagulation Factor X. *Comparative Medicine* 58:282-286, 2008.
16. Guillen-Ahlers H, Buechler S, **Suckow MA**, Castellino FJ, Ploplis VA. Collagen expression is increased and MMP7 is decreased in tumors of APC<sup>Min/+</sup> mice after sulindac treatment. *Carcinogenesis* 29:1421-1427, 2008.
17. **Suckow MA**, Wheeler JD, Wolter WR, Sailes V, Yan M. Immunization with a tissue vaccine enhances the effect of irradiation of prostate tumors. *In Vivo* 22:171-177, 2008.
18. **Suckow MA**, Hall P, Wolter W, Sailes V, Hiles MC. Use of an extracellular matrix material as a vaccine carrier and adjuvant. *Anticancer Research* 28:2529-2534, 2008.
19. **Suckow MA**, Wolter WR, Sailes VT. Inhibition of prostate cancer metastasis by administration of a tissue vaccine. *Clinical & Experimental Metastasis* 25:913-918, 2008. .
21. Smith BA, Akers WJ, Leevy WM, Lampkins AJ, Xiao S, Wolter W, **Suckow MA**, Achilefu S, Smith BD. Optical imaging of mammary and prostate tumors in living animals using a synthetic near infrared zinc(II)-dipicolylamine probe for anionic cell surfaces. *Journal of American Chemical Society*, 132:67-69, 2010.
22. **Suckow MA**, Hodde JP, Wolter WR, Wood KV, Janis AD. Addition of nimesulide to small intestinal submucosa biomaterial inhibits postsurgical adhesiogenesis in rats. *Journal of Biomedical Materials Research B: Applied Biomaterials*, 93:18-23, 2010.

23. Gooyit M, Lee M, Schroeder VA, Masahiro I, **Suckow MA**, Mobashery S, Chang M. Selective water-soluble gelatinase inhibitor prodrugs. *Journal of Medicinal Chemistry*, **54**:6676-6690, 2011.
25. **Suckow MA**, Wolter WR, Fecteau C, LaBadie-Suckow SM, and Johnson C. Bupivacaine-enhanced small intestinal submucosa biomaterial as a hernia repair device. *Journal of Biomaterials Applications*, **27(2)**: 231-237, 2012.
26. Hadass O, Tomlinson BN, Gooyit M, Chen S, Purdy JJ, Walker JM, Zhang C, Giritharan AB, Purnell W, Robinson CR II, Shin D, Schroeder VA, **Suckow MA**, Simonyi A, Sun GY, Mobashery S, Cui J, Chang M, Gu Z. Selective inhibition of matrix metalloproteinase-9 attenuates secondary damage resulting from severe traumatic brain injury. *PLoS One* **8**: e76904, 2013.
27. Gooyit M, Peng Z, Wolter WR, Pi H, Ding D, Hesk D, Lee M, Boggess B, Champion MM, **Suckow MA**, Mobashery S, Chang M. A chemical biological strategy to facilitate diabetic wound healing. *ACS Chemical Biology*, **9**:105-110, 2014.
28. Gonzales PR, Pesesky MW, Bouley R, Ballard A, Bidy BA, **Suckow MA**, Wolter WR, Schroeder VA, Burnham CD, Mobashery S, Chang M, Dantas G. Synergistic, collaterally sensitive  $\beta$ -lactam combinations suppress resistance in MRSA. *Nature Chemical Biology* **11**:855-861, 2015.
29. Semple BD, Noble-Haeusslein LJ, Gooyit M, Tercovich KG, Peng Z, Nguyen TT, Schroeder VA, **Suckow MA**, Chang M, Raber J, Trivedi A. Early gelatinase activity is not a determinant of long-term recovery after traumatic brain injury in the immature mouse. *PLOS One* DOI:10.1371/journal.pone.0143386.
30. Gao M, Nguyen TT, **Suckow MA**, Wolter WR, Gooyit M, Mobashery S, Chang M. Acceleration of diabetic wound healing using a novel protease-anti protease combination therapy. *Proceedings of the National Academy of Sciences* **112**:15226-15231, 2015.

## Current Support

Title: *Subcutaneous Angiogenesis into Porcine Small Intestinal Submucosa: Multiple Formulations of Biomaterial Constructs*

PI: Mark A. Suckow

Amount: \$34,856

Period: 11/1/16 – 10/31/19

## Completed Research Support (last three years)

Title: Evaluation of Vaccines to Prevent Bacterial Infections

PI: Mark A. Suckow

Source: Syntiron, LLC

Amount: \$301,228

Period: 10/01/16 – 12/31/18

Title: *Initial Chronic CO<sub>2</sub> Exposure Studies*

PI: Mark A. Suckow

Source: Cook Regentec, Inc.

Amount: \$13,075

Period: 5/26/16 – 5/12/18

Title: Subcontract for *A Strategy to Accelerate Diabetic Wound Healing*

PI: Mark A. Suckow

Source: American Diabetes Association/University of Notre Dame (subcontract for grant to Mayland Chang)

Amount: \$125,060

Period: 12/14/15 – 12/31/18

Title: Animal Models of Adhesiogenesis

PI: Mark A. Suckow

Source: Cook Biotech, Inc.

Amount: \$14,190

Period: 6/15/18 – 6/14/19