

curriculum vitae

Jeffrey S. Simske

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EDUCATION

1990 - 1996, Ph.D., Department of Developmental Biology, Stanford University, Stanford, CA.

1984 - 1988, B.A., *summa cum laude*, Microbiology, University of Minnesota, Minneapolis, MN.

RESEARCH EXPERIENCE

2001 – Present, Assistant Professor at Rammelkamp Center for Education and Research, Cleveland, OH.
“Analysis of the claudin-like cell junction protein VAB-9/TM4SF10 in *C. elegans* and renal epithelial cells.”

1996 - 2001, Postdoctoral Fellow with Jeff Hardin, Department of Zoology, University of Wisconsin, Madison, WI. "A molecular and genetic analysis of epithelial morphogenesis in *C. elegans*."

1990 - 1996, Doctorate work with Stuart Kim, Department of Developmental Biology, Stanford University, Stanford, CA. "PDZ domain-containing proteins LIN-7 and LIN-2 are required for LET-23 (EGFR-like) receptor localization and polarized growth factor signaling during *C. elegans* vulval induction." and "Induction of discrete cell fates is mediated by sequential signals during *C. elegans* vulval development."

1988- 1990, Research Specialist in the Human Sciences with Lester F. Lau, University of Illinois at Chicago, Chicago, IL. "The characterization of immediate-early genes induced by serum growth factors in quiescent fibroblasts."

1987-1988, Undergraduate Research Assistant with Stewart Scherer, University of Minnesota, Minneapolis, MN. "The behavior of circular DNA in pulsed-field gel electrophoresis" and "Identification of centromeric DNA in *Candida albicans*"

HONORS

Undergraduate

Graduated *Summa cum laude*

Graduate

Helen Hay Whitney Postdoctoral Fellowship, 1998-2000.

Gamete and Embryo Biology Training Grant, University of Wisconsin, 1997

PUBLICATIONS

- Simske, J. S.**, Koppen, M., Sims, P., Hodgkin, J., Yonkof, A. & Hardin, J. The cell junction protein VAB-9 regulates adhesion and epidermal morphology in *C. elegans*. *Nat. Cell. Biol.* **5**, 619-25 (2003).
- Koppen, M., **Simske, J. S.**, Sims, P. A., Firestein, B. L., Hall, D. H., Radice, A. D., Rongo, C. & Hardin, J. D. Cooperative regulation of AJM-1 controls junctional integrity in *Caenorhabditis elegans* epithelia. *Nat Cell Biol* **3**, 983-91. (2001)
- Hardin, J., Raich, W.B. and **Simske, J.S.** (2000) Morphogenesis at single-cell resolution: studying changes in the shape of the embryo in the tradition of Hörstadius. In: "Regulatory Processes in Development" (C. O. Jacobson, L. Olson, eds.) Wenner-Gren International Series, Vol. 76, pp.125-147. Portland Press, London.
- Mohler, W.A., **Simske, J.S.**, Williams-Masson, E.M., Hardin, J.D., White, J.G. (1998) Dynamics and ultrastructure of developmental cell fusions in the *Caenorhabditis elegans* hypodermis. *Curr Biol.* **8**, 1087-90
- Eisenmann, D. M., Maloof, J. N., **Simske, J. S.**, Kenyon, C. and Kim, S. K. (1998). The beta-catenin homolog BAR-1 and LET-60 Ras coordinately regulate the Hox gene *lin-39* during *Caenorhabditis elegans* vulval development. *Development* **125**, 3667-3680
- Simske, J. S.**, Kaech, S. M., Harp, S. A., and Kim, S. K. (1996). LET-23 receptor localization by the cell junction protein LIN-7 during *C. elegans* vulval development. *Cell.*, **85**, 195-204.
- Simske, J. S.** and Kim, S. K. (1995). Sequential signalling during *Caenorhabditis elegans* vulval induction. *Nature* **375**, 142-146.
- Charles, C.H., Yoon, J.K., **Simske, J.S.**, & Lau, L.F. (1992). Genomic structure, cDNA sequence, and expression of *gly96*, a growth factor inducible immediate-early gene encoding a short-lived glycosylated protein. *Oncogene*, **8**, 797 - 801.
- Charles, C.H., **Simske, J.S.**, O'Brien, T.P. & Lau, L.F. (1990). Pip92: A Short-Lived, Growth Factor-Inducible Protein in BALB/c 3T3 and PC12 Cells. *Mol. Cell. Biol.*, **10**, 6769 - 6774
- Simske, J.S.** & Scherer, S. (1989). Pulsed-field gel electrophoresis of circular DNA. *Nucleic Acids Res.*, **17**, 4359 - 4365.

INVITED REVIEWS

- Jarad, G., **Simske, J. S.**, Sedor, J. R. & Schelling, J. R. Nucleic acid-based techniques for post-transcriptional regulation of molecular targets. *Curr Opin Nephrol Hypertens* **12**, 415-21 (2003).
- Simske, J. S.**, and Hardin, J. (2001). Getting into shape: epidermal morphogenesis in *Caenorhabditis elegans* embryos. *Bioessays* **22**, 12-23.
- Simske, J. S.** and Kim, S.K. (1998) Pattern Formation by Sequential Signaling During *C. elegans* Vulval Induction. In "*Hormones and Growth Factors in Development and Neoplasia*" R.B. Dickson and D.S.

Salomon, Editors, 3-17.

MANUSCRIPTS IN REVIEW OR PREPARATION

Thomas-Virnig, C.L., **Simske, J.S.** Sims, P.A., Baylis, H.A., Hardin, J., (2004). Inositol 1, 4, 5-Trisphosphate Signaling Regulates Epidermal Cell Migrations in *Caenorhabditis elegans*, in preparation.

Simske, J.S. and Hardin, J., (2004). A Screen for enclosure defective mutants during *Caenorhabditis elegans* embryogenesis reveals a maternal requirement for known and novel loci, in preparation.

Martinka, S., Bruggeman, L. and **Simske, J.S.** (2004) TMSF410, a member of the PMP22/EMP/Claudin family of proteins, localizes at podocyte cell junctions and is developmentally regulated during the formation of the mouse glomerulus, in preparation.

Simske, J.S. (2004) The PMP22/EMP/claudin family cell junction protein TM4SF10 interacts with the Par6 protein complex and is required for junctional maturation in MDCK cells and in *C. elegans* epidermis, in preparation.

SYMPOSIA/INVITED LECTURES/SHIPS

- 2003 Invited Speaker, Epithelial Development and Keratinization, Gordon Conference, Tilton School, NH
Plenary Session Speaker, 14th International *C. elegans* meeting, University of California, Los Angeles, CA.
Invited Speaker, John Carroll College, Cleveland OH.
- 2002 Speaker, Midwest *C. elegans* meeting, University of Washington, St. Louis.
- 2001 Parallel Session Speaker (Epithelial Morphogenesis and Polarity), 13th International *C. elegans* meeting, University of California, Los Angeles, CA.
Invited Speaker, University of Michigan, Ann Arbor, MI.

TEACHING EXPERIENCE

- 1997 Instructor, Zoology 650, Advanced Developmental Biology.
- 1991 Teaching Assistant for Biochemistry 200, Stanford University.
- 1987 Tutor for introductory biology and chemistry, University of Minnesota.

SUPERVISED STUDENTS

- 2002 Alicia Yonkof, Chester Scholar, Rammelkamp Center and MetroHealth Hospital, Cleveland OH
- 2000 Greta Kuphal, Honors Thesis, University of Wisconsin, Madison, WI
- 1999 Ryan Smith, Honors Thesis, University of Wisconsin, Madison, WI

PROFESSIONAL SOCIETIES

Society for Developmental Biology
Genetics Society of America