

Stanford



Stuart Kim

Professor of Developmental Biology, Emeritus

Bio

ACADEMIC APPOINTMENTS

- Professor Emeritus, Developmental Biology

LINKS

- Stuart Kim Lab: <http://cmgm.stanford.edu/~kimlab>

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Please see my lab website for description of research and publications. I do not update this site often.

Teaching

GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Cancer Biology (Phd Program)
- Chemical and Systems Biology (Phd Program)
- Developmental Biology (Phd Program)

Publications

PUBLICATIONS

- **Roles of the developmental regulator *unc-62/Homothorax* in limiting longevity in *Caenorhabditis elegans*.** *PLoS genetics*
Van Nostrand, E. L., Sánchez-Blanco, A., Wu, B., Nguyen, A., Kim, S. K.
2013; 9 (2)
- **An Engineering Approach to Extending Lifespan in *C. elegans*** *PLOS GENETICS*
Sagi, D., Kim, S. K.
2012; 8 (6)
- **Variable Pathogenicity Determines Individual Lifespan in *Caenorhabditis elegans*** *PLOS GENETICS*
Sanchez-Blanco, A., Kim, S. K.
2011; 7 (4)
- **An *elt-3/elt-5/elt-6* GATA transcription circuit guides aging in *C-elegans*** *CELL*
Budovskaya, Y. V., Wu, K., Southworth, L. K., Jiang, M., Tedesco, P., Johnson, T. E., Kim, S. K.
2008; 134 (2): 291-303

- **AGEMAP: A gene expression database for aging in mice** *PLOS GENETICS*
Zahn, J. M., Poosala, S., Owen, A. B., Ingram, D. K., Lustig, A., Carter, A., Weeraratna, A. T., Taub, D. D., Gorospe, M., Mazan-Mamczarz, K., Lakatta, E. G., Boheler, K. R., Xu, et al
2007; 3 (11): 2326-2337
- **Transcriptional profiling of aging in human muscle reveals a common aging signature** *PLOS GENETICS*
Zahn, J. M., Sonu, R., Vogel, H., Crane, E., Mazan-Mamczarz, K., Rabkin, R., Davis, R. W., Becker, K. G., Owen, A. B., Kim, S. K.
2006; 2 (7): 1058-1069
- **A transcriptional profile of aging in the human kidney** *PLOS BIOLOGY*
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2004; 2 (12): 2191-2201
- **A gene-coexpression network for global discovery of conserved genetic modules** *SCIENCE*
Stuart, J. M., Segal, E., Koller, D., Kim, S. K.
2003; 302 (5643): 249-255
- **Chromosomal clustering of muscle-expressed genes in *Caenorhabditis elegans*** *NATURE*
Roy, P. J., Stuart, J. M., Lund, J., Kim, S. K.
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- **A gene expression map for *Caenorhabditis elegans*** *SCIENCE*
Kim, S. K., Lund, J., Kiraly, M., Duke, K., Jiang, M., Stuart, J. M., Eizinger, A., Wylie, B. N., Davidson, G. S.
2001; 293 (5537): 2087-2092
- **Optimal multiple testing under a Gaussian prior on the effect sizes** *BIOMETRIKA*
Dobriban, E., Fortney, K., Kim, S. K., Owen, A. B.
2015; 102 (4): 753-766
- **Reproductive Aging Drives Protein Accumulation in the Uterus and Limits Lifespan in *C. elegans*** *PLOS GENETICS*
Zimmerman, S. M., Hinkson, I. V., Elias, J. E., Kim, S. K.
2015; 11 (12)
- **Genome-Wide Scan Informed by Age-Related Disease Identifies Loci for Exceptional Human Longevity** *PLOS GENETICS*
Fortney, K., Dobriban, E., Garagnani, P., Pirazzini, C., Monti, D., Mari, D., Atzmon, G., Barzilai, N., Franceschi, C., Owen, A. B., Kim, S. K.
2015; 11 (12)
- **Applying Personal Genetic Data to Injury Risk Assessment in Athletes** *PLOS ONE*
Goodlin, G. T., Roos, A. K., Roos, T. R., Hawkins, C., Beache, S., Baur, S., Kim, S. K.
2015; 10 (4)
- **Reconciliation of *daf-2* suppression by *elt-3* in *Caenorhabditis elegans* from Tonsaker et al. (2012) and Kim et al. (2012).** *Mechanisms of ageing and development*
Kim, S. K., Budovskaya, Y. V., Johnson, T. E.
2013; 134 (1-2): 64-65
- **The GATA Transcription Factor *egl-27* Delays Aging by Promoting Stress Resistance in *Caenorhabditis elegans*** *PLOS GENETICS*
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2012; 8 (12)
- **Interpretome: a freely available, modular, and secure personal genome interpretation engine.** *Pacific Symposium on Biocomputing. Pacific Symposium on Biocomputing*
Karczewski, K. J., Tirrell, R. P., Cordero, P., Tatonetti, N. P., Dudley, J. T., Salari, K., Snyder, M., Altman, R. B., Kim, S. K.
2012: 339-350
- **Response to Tonsaker et al.** *Mechanisms of ageing and development*
Kim, S. K., Budovskaya, Y. V., Johnson, T. E.
2012; 133 (1): 54-56

- **Seeing elegance in gene regulatory networks of the worm** *CURRENT OPINION IN GENETICS & DEVELOPMENT*
Van Nostrand, E. L., Kim, S. K.
2011; 21 (6): 776-786
- **The early bird catches the worm: new technologies for the *Caenorhabditis elegans* toolkit** *NATURE REVIEWS GENETICS*
Xu, X., Kim, S. K.
2011; 12 (11): 793-801
- **Properties of Balanced Permutations** *JOURNAL OF COMPUTATIONAL BIOLOGY*
Southworth, L. K., Kim, S. K., Owen, A. B.
2009; 16 (4): 625-638
- **Cell biology - Proteins that promote long life** *SCIENCE*
Kim, S. K.
2007; 317 (5838): 603-604
- **Systems biology of aging in four species** *CURRENT OPINION IN BIOTECHNOLOGY*
Zahn, J. M., Kim, S. K.
2007; 18 (4): 355-359
- **Common aging pathways in worms, flies, mice and humans** *JOURNAL OF EXPERIMENTAL BIOLOGY*
Kim, S. K.
2007; 210 (9): 1607-1612
- **Common aging pathways in worms, flies, mice and humans.** *The Journal of Experimental Biology*
Kim SK
2007: 1607-1612
- **Chromosomal clustering and GATA transcriptional regulation of intestine-expressed genes in *C-elegans*** *DEVELOPMENT*
Pauli, F., Liu, Y. Y., Kim, Y. A., Chen, P. J., Kim, S. K.
2006; 133 (2): 287-295
- **A gene recommender algorithm to identify coexpressed genes in *C-elegans*** *GENOME RESEARCH*
Owen, A. B., Stuart, J., Mach, K., Villeneuve, A. M., Kim, S.
2003; 13 (8): 1828-1837
- **Global analysis of dauer gene expression in *Caenorhabditis elegans*** *DEVELOPMENT*
Wang, J., Kim, S. K.
2003; 130 (8): 1621-1634
- **The modular era of functional genomics.** *Genome biology*
Segal, E., Kim, S. K.
2003; 4 (5): 317-?
- **Transcriptional profile of aging in *C-elegans*** *CURRENT BIOLOGY*
Lund, J., Tedesco, P., Duke, K., Wang, J., Kim, S. K., Johnson, T. E.
2002; 12 (18): 1566-1573
- **A targeted RNAi screen for genes involved in chromosome morphogenesis and nuclear organization in the *Caenorhabditis elegans* germline** *GENETICS*
Colaiacovo, M. P., Stanfield, G. M., Reddy, K. C., Reinke, V., Kim, S. K., Villeneuve, A. M.
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- **Downstream targets of let-60 Ras in *Caenorhabditis elegans*** *DEVELOPMENTAL BIOLOGY*
Romagnolo, B., Jiang, M., Kiraly, M., Breton, C., Begley, R., Wang, J., Lund, J., Kim, S. K.
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- **HTTP ://*C-elegans*: Mining the functional genomic landscape** *NATURE REVIEWS GENETICS*
Kim, S. K.
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- **Functional genomics: The worm scores a knockout** *CURRENT BIOLOGY*
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- **Genome-wide analysis of developmental and sex-regulated gene expression profiles in *Caenorhabditis elegans*** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Jiang, M., Ryu, J., Kiraly, M., Duke, K., Reinke, V., Kim, S. K.
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- **"Fluorescent timer": Protein that changes color with time** *SCIENCE*
Terskikh, A., Fradkov, A., Ermakova, G., Zeraisky, A., Tan, P., Kajava, A. V., Zhao, X. N., Lukyanov, S., Matz, M., Kim, S., Weissman, I., Siebert, P.
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- **Protruding vulva mutants identify novel loci and Wnt signaling factors that function during *Caenorhabditis elegans* vulva development** *GENETICS*
Eisenmann, D. M., Kim, S. K.
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- **A global profile of germline gene expression in *C-elegans*** *MOLECULAR CELL*
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- **Reading the worm genome.** *Science*
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- **Basolateral localization of the *Caenorhabditis elegans* epidermal growth factor receptor in epithelial cells by the PDZ protein LIN-10** *MOLECULAR BIOLOGY OF THE CELL*
Whitfield, C. W., BENARD, C., Barnes, T., Hekimi, S., Kim, S. K.
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- **Signaling specificity - the RTK/RAS/MAP kinase pathway in metazoans** *TRENDS IN GENETICS*
Tan, P. B., Kim, S. K.
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- **The LIN-2/LIN-7/LIN-10 complex mediates basolateral membrane localization of the *C-elegans* EGF receptor LET-23 in vulval epithelial cells** *CELL*
Kaech, S. M., Whitfield, C. W., Kim, S. K.
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- **Genetic analysis of the *Caenorhabditis elegans* MAP kinase gene *mpk-1*** *GENETICS*
Lackner, M. R., Kim, S. K.
1998; 150 (1): 103-117
- **The beta-catenin homolog BAR-1 and LET-60 Ras coordinately regulate the Hox gene *lin-39* during *Caenorhabditis elegans* vulval development** *DEVELOPMENT*
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1998; 125 (18): 3667-3680
- **MAP kinase signaling specificity mediated by the LIN-1 Ets/LIN31 WH transcription factor complex during *C-elegans* vulval induction** *CELL*
Tan, P. B., Lackner, M. R., Kim, S. K.
1998; 93 (4): 569-580
- **Polarized signaling: basolateral receptor localization in epithelial cells by PDZ-containing proteins** *CURRENT OPINION IN CELL BIOLOGY*
Kim, S. K.
1997; 9 (6): 853-859
- **Inhibition of *Caenorhabditis elegans* vulval induction by *gap-1* and by *let-23* receptor tyrosine kinase** *GENES & DEVELOPMENT*
Hajnal, A., Whitfield, C. W., Kim, S. K.
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- **Mechanism of activation of the *Caenorhabditis elegans* ras homologue *let-60* by a novel, temperature-sensitive, gain-of-function mutation** *GENETICS*

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1997; 146 (2): 553-565
- **Mosaic analysis using a ncl-1(+) extrachromosomal array reveals that lin-31 acts in the Pn.p cells during Caenorhabditis elegans vulval development** *GENETICS*
Miller, L. M., Waring, D. A., Kim, S. K.
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 - **LET-23 receptor localization by the cell junction protein LIN-7 during C-elegans vulval induction** *CELL*
Simske, J. S., Kaech, S. M., Harp, S. A., Kim, S. K.
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 - **The C-elegans vulval induction gene lin-2 encodes a member of the MAGUK family of cell junction proteins** *DEVELOPMENT*
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 - **SEQUENTIAL SIGNALING DURING CAENORHABDITIS-ELEGANS VULVAR INDUCTION** *NATURE*
Simske, J. S., Kim, S. K.
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 - **Signal transduction and cell fate specification during Caenorhabditis elegans vulval development.** *Current opinion in genetics & development*
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 - **A MAP KINASE HOMOLOG, MPK-1, IS INVOLVED IN RAS-MEDIATED INDUCTION OF VULVAR CELL FATES IN CAENORHABDITIS-ELEGANS** *GENES & DEVELOPMENT*
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 - **LIN-31, A CAENORHABDITIS-ELEGANS HNF-3 FORK-HEAD TRANSCRIPTION FACTOR HOMOLOG, SPECIFIES 3 ALTERNATIVE CELL FATES IN VULVAR DEVELOPMENT** *GENES & DEVELOPMENT*
Miller, L. M., Gallegos, M. E., MORISSEAU, B. A., Kim, S. K.
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 - **PREVENTION OF PROGRAMMED CELL-DEATH IN CAENORHABDITIS-ELEGANS BY HUMAN BCL-2** *SCIENCE*
Vaux, D. L., Weissman, I. L., Kim, S. K.
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