



Margaret T. Fuller

Reed-Hodgson Professor in Human Biology and Professor of Genetics and of Obstetrics/Gynecology (Reproductive and Stem Cell Biology)
Developmental Biology

CONTACT INFORMATION

- **Alternate Contact**

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Bio

ACADEMIC APPOINTMENTS

- Professor, Developmental Biology
- Professor, Genetics
- Professor, Obstetrics & Gynecology - Reproductive Biology
- Member, Bio-X
- Member, Cardiovascular Institute
- Member, Maternal & Child Health Research Institute (MCHRI)
- Member, Stanford Cancer Institute

HONORS AND AWARDS

- Reed-Hodgson Professor, Human Biology (2004-present)
- Member, American Academy of Arts and Sciences (2006-present)
- Member, National Academy of Sciences (2008-present)
- Member, Institute of Medicine (2011-present)

PROFESSIONAL EDUCATION

- Ph. D., Mass Inst Tech , Microbiology (1980)
- B. A., Brandeis Univ. , Physics (1974)
- Postdoctoral, Indiana University , Developmental Genetics (1983)

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

My laboratory uses the *Drosophila* male germ line as a model to investigate how self-renewal, proliferation and differentiation are regulated in adult stem cell lineages.

The central characteristic of adult stem cells is their long-term capacity to divide as relatively undifferentiated precursors while also producing daughter cells that

initiate differentiation. Understanding the mechanisms that regulate stem cell specification and the choice between stem cell self-renewal and differentiation is crucial for realizing the potential of stem cells for regenerative medicine. We are using the *Drosophila* male germ line as a powerful genetic system to identify both the cell autonomous determinants and the extrinsic cell-cell interactions that govern stem cell specification, self-renewal, and differentiation. One of the great advantages of this system is that stem cells can be studied in situ, in the context of their normal support cells. Our results indicate that signals from surrounding somatic support cells specify asymmetric division of male germ line stem cells by inducing one daughter cell to self-renew stem cell identity while directing the other daughter cell to differentiate. A second focus of our work concerns how the developmental program directs cellular differentiation. Fundamental cellular functions like the cell cycle, the cytoskeleton, and the general transcription machinery are remodeled during development to give rise to specialized cell types. Several lines of research in our laboratory have recently converged on the molecular mechanisms underlying the developmentally programmed switch from proliferation to differentiation, a key regulatory point in the adult stem cell lineages that underlie tissue maintenance and repair. Failure to cleanly execute this switch may contribute to genesis of cancer. Our results implicate a number of molecular and cellular mechanisms in regulating this critical switch. We find that RNA binding proteins involved in translational control and alternative splicing act cell autonomously to regulate the cessation of proliferation and that progression of differentiation requires communication from associated somatic support cells. We discovered that a developmentally regulated alternate choice of site at which certain nascent transcripts are cut to form 3' ends, leading to production of novel mRNA isoforms with shortened 3'UTRs, controls dramatic changes in the suite of proteins expressed in differentiating spermatocytes compared to proliferating spermatogonia. We found that dramatic changes in chromatin open over 2000 new promoters with novel core sequence structure to turn on the new cell type specific transcription program when cells initiate spermatocyte differentiation. Some of the earliest genes turned on in this differentiation program encode chromatin associated proteins that prevent spurious opening of normally cryptic promoters, thus preventing massive misexpression of genes associated with the wrong cell type. Other transcripts upregulated with differentiation onset encode cell type-specific translational regulators that delay production of core G2/M cell cycle machinery to program the extended G2 phase of meiotic prophase. Our goal over the next 5 years is to map how these processes collaborate to form the regulatory circuitry that initiates then executes the switch from proliferation to differentiation.

CLINICAL TRIALS

- Testing the Safety and Tolerability of CX-4945 in Patients With Recurrent Medulloblastoma Who May or May Not Have Surgery, Not Recruiting

Teaching

COURSES

2019-20

- Cell and Developmental Biology: HUMBIO 3A (Win)

2018-19

- Cell and Developmental Biology: HUMBIO 3A (Win)
- The Biology of Stem Cells: HUMBIO 157 (Spr)

2017-18

- Cell and Developmental Biology: HUMBIO 3A (Win)

2016-17

- Cell and Developmental Biology: HUMBIO 3A (Win)
- Evolution of Life in Neotropical Forests of Ecuador: OSPGEN 75 (Sum)
- The Biology of Stem Cells: HUMBIO 157 (Spr)

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Teni Anbarchian, Heidi Chen, Laura Donohue, Ashley Gonzalez, Fiorella Grandi, Rachel Grant, Ian Heller, Emily Ho, Sam Kimmey, Naz Koska, Leslie Mateo, Katelyn McKown, Amanda Papakyrikos, Youngsoo Rim, Erin Sanders, Gerald Tiu, John Vaughen, Daniel Wesche, Julia Wucherpfennig, Kei Yamaya, Xue Yang

Postdoctoral Faculty Sponsor

Alexis Bailey, Neuza Reis Matias

Doctoral Dissertation Advisor (AC)

Cameron Berry, Susanna Brantley, Devon Harris, Eric Wong

GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Cancer Biology (Phd Program)
- Developmental Biology (Phd Program)
- Genetics (Phd Program)
- Stem Cell Biology and Regenerative Medicine (Phd Program)

Publications

PUBLICATIONS

- **Somatic support cells regulate germ cell survival through the Baz/aPKC/Par6 complex** *DEVELOPMENT*
Brantley, S. E., Fuller, M. T.
2019; 146 (8)
- **Developmental phosphoproteomics identifies the kinase CK2 as a driver of Hedgehog signaling and a therapeutic target in medulloblastoma.** *Science signaling*
Purzner, T., Purzner, J., Buckstaff, T., Cozza, G., Gholamin, S., Rusert, J. M., Hartl, T. A., Sanders, J., Conley, N., Ge, X., Langan, M., Ramaswamy, V., Ellis, et al
2018; 11 (547)
- **The conserved RNA helicase YTHDC2 regulates the transition from proliferation to differentiation in the germline** *ELIFE*
Bailey, A. S., Batista, P. J., Gold, R. S., Chen, Y., de Rooij, D. G., Chang, H. Y., Fuller, M. T.
2017; 6
- **Blocking promiscuous activation at cryptic promoters directs cell type-specific gene expression** *SCIENCE*
Kim, J., Lu, C., Srinivasan, S., Awe, S., Brehm, A., Fuller, M. T.
2017; 356 (6339): 717-721
- **Cell type-specific translational repression of Cyclin B during meiosis in males** *DEVELOPMENT*
Baker, C. C., Gim, B. S., Fuller, M. T.
2015; 142 (19): 3394-3402
- **Somatic cell lineage is required for differentiation and not maintenance of germline stem cells in Drosophila testes** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Lim, J. G., Fuller, M. T.
2012; 109 (45): 18477-18481
- **A Self-Limiting Switch Based on Translational Control Regulates the Transition from Proliferation to Differentiation in an Adult Stem Cell Lineage** *CELL STEM CELL*
Insko, M. L., Bailey, A. S., Kim, J., Olivares, G. H., Wapinski, O. L., Tam, C. H., Fuller, M. T.
2012; 11 (5): 689-700
- **Accumulation of a differentiation regulator specifies transit amplifying division number in an adult stem cell lineage** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Insko, M. L., Leon, A., Tam, C. H., McKearin, D. M., Fuller, M. T.
2009; 106 (52): 22311-22316
- **Asymmetric inheritance of mother versus daughter centrosome in stem cell division** *SCIENCE*
Yamashita, Y. M., Mahowald, A. P., Perlin, J. R., Fuller, M. T.

2007; 315 (5811): 518-521

- **Tissue-specific TAFs counteract polycomb to turn on terminal differentiation** *SCIENCE*
Chen, X., Hiller, M., Sancak, Y., Fuller, M. T.
2005; 310 (5749): 869-872
- **Orientation of asymmetric stem cell division by the APC tumor suppressor and centrosome** *SCIENCE*
Yamashita, Y. M., Jones, D. L., Fuller, M. T.
2003; 301 (5639): 1547-1550
- **Stem cell self-renewal specified by JAK-STAT activation in response to a support cell cue** *SCIENCE*
Kiger, A. A., Jones, D. L., Schulz, C., Rogers, M. B., Fuller, M. T.
2001; 294 (5551): 2542-2545
- **Somatic support cells restrict germline stem cell self-renewal and promote differentiation** *NATURE*
Kiger, A. A., White-Cooper, H., Fuller, M. T.
2000; 407 (6805): 750-754
- **Developmentally regulated mitochondrial fusion mediated by a conserved, novel, predicted GTPase** *CELL*
Hales, K. G., Fuller, M. T.
1997; 90 (1): 121-129
- **The Dig Module and Clathrin-Mediated Endocytosis Regulate EGFR Signaling and Cyst Cell-Germline Coordination in the Drosophila Testis** *STEM CELL REPORTS*
Papagiannouli, F., Berry, C., Fuller, M. T.
2019; 12 (5): 1024-40
- **Somatic support cells regulate germ cell survival through the Baz/aPKC/Par6 complex.** *Development (Cambridge, England)*
Brantley, S. E., Fuller, M. T.
2019
- **Testis-specific ATP synthase peripheral stalk subunits required for tissue-specific mitochondrial morphogenesis in Drosophila.** *BMC cell biology*
Sawyer, E. M., Brunner, E. C., Hwang, Y., Ivey, L. E., Brown, O., Bannon, M., Akrobetu, D., Sheaffer, K. E., Morgan, O., Field, C. O., Suresh, N., Gordon, M. G., Gunnell, et al
2017; 18 (1): 16
- **Testis-specific ATP synthase peripheral stalk subunits required for tissue-specific mitochondrial morphogenesis in Drosophila** *BMC CELL BIOLOGY*
Sawyer, E. M., Brunner, E. C., Hwang, Y., Ivey, L. E., Brown, O., Bannon, M., Akrobetu, D., Sheaffer, K. E., Morgan, O., Field, C. O., Suresh, N., Gordon, M. G., Gunnell, et al
2016; 18
- **Differentiation in Stem Cell Lineages and in Life: Explorations in the Male Germ Line Stem Cell Lineage** *ESSAYS ON DEVELOPMENTAL BIOLOGY, PTA*
Fuller, M. T.
2016; 116: 375-390
- **Recruitment of Mediator Complex by Cell Type and Stage-Specific Factors Required for Tissue-Specific TAF Dependent Gene Activation in an Adult Stem Cell Lineage** *PLOS GENETICS*
Lu, C., Fuller, M. T.
2015; 11 (12)
- **Exocyst-Dependent Membrane Addition Is Required for Anaphase Cell Elongation and Cytokinesis in Drosophila** *PLOS GENETICS*
Giansanti, M. G., Vanderleest, T. E., Jewett, C. E., Sechi, S., Frappaolo, A., Fabian, L., Robinett, C. C., Brill, J. A., Loerke, D., Fuller, M. T., Blankenship, J. T.
2015; 11 (11)
- **Recruitment of Mediator Complex by Cell Type and Stage-Specific Factors Required for Tissue-Specific TAF Dependent Gene Activation in an Adult Stem Cell Lineage.** *PLoS genetics*
Lu, C., Fuller, M. T.
2015; 11 (12): e1005701
- **Escargot Restricts Niche Cell to Stem Cell Conversion in the Drosophila Testis** *CELL REPORTS*
Voog, J., Sandall, S. L., Hime, G. R., Resende, L. P., Loza-Coll, M., Aslanian, A., Yates, J. R., Hunter, T., Fuller, M. T., Jones, L.

2014; 7 (3): 722-734

- **GOLPH3 Is Essential for Contractile Ring Formation and Rab11 Localization to the Cleavage Site during Cytokinesis in *Drosophila melanogaster*** *PLOS GENETICS*
Sechi, S., Colotti, G., Belloni, G., Mattei, V., Frappaolo, A., Raffa, G. D., Fuller, M. T., Giansanti, M. G.
2014; 10 (5)
- **The actin-binding protein profilin is required for germline stem cell maintenance and germ cell enclosure by somatic cyst cells** *DEVELOPMENT*
Shields, A. R., Spence, A. C., Yamashita, Y. M., Davies, E. L., Fuller, M. T.
2014; 141 (1): 73-82
- **The histone variant His2Av is required for adult stem cell maintenance in the *Drosophila* testis.** *PLoS genetics*
Morillo Prado, J. R., Srinivasan, S., Fuller, M. T.
2013; 9 (11)
- **The Histone Variant His2Av is Required for Adult Stem Cell Maintenance in the *Drosophila* Testis.** *PLoS genetics*
Morillo Prado, J. R., Srinivasan, S., Fuller, M. T.
2013; 9 (11)
- **The polyubiquitin gene Ubi-p63E is essential for male meiotic cell cycle progression and germ cell differentiation in *Drosophila*.** *Development*
Lu, C., Kim, J., Fuller, M. T.
2013; 140 (17): 3522-3531
- **Three levels of regulation lead to protamine and Mst77F expression in *Drosophila*** *DEVELOPMENTAL BIOLOGY*
Barckmann, B., Chen, X., Kaiser, S., Jayaramaiah-Raja, S., Rathke, C., Dottermusch-Heidel, C., Fuller, M. T., Renkawitz-Pohl, R.
2013; 377 (1): 33-45
- **The transcriptional regulator lola is required for stem cell maintenance and germ cell differentiation in the *Drosophila* testis** *DEVELOPMENTAL BIOLOGY*
Davies, E. L., Lim, J. G., Joo, W. J., Tam, C. H., Fuller, M. T.
2013; 373 (2): 310-321
- **Polycomb Group Genes Psc and Su(z)2 Maintain Somatic Stem Cell Identity and Activity in *Drosophila*** *PLOS ONE*
Prado, J. R., Chen, X., Fuller, M. T.
2012; 7 (12)
- **Mutations in Cog7 affect Golgi structure, meiotic cytokinesis and sperm development during *Drosophila* spermatogenesis** *JOURNAL OF CELL SCIENCE*
Belloni, G., Sechi, S., Riparbelli, M. G., Fuller, M. T., Callaini, G., Giansanti, M. G.
2012; 125 (22): 5441-5452
- **What *Drosophila* Spermatocytes Tell Us About the Mechanisms Underlying Cytokinesis** *CYTOSKELETON*
Giansanti, M. G., Fuller, M. T.
2012; 69 (11): 869-881
- **A Novel Human Polycomb Binding Site Acts As a Functional Polycomb Response Element in *Drosophila*** *PLOS ONE*
Cuddapah, S., Roh, T., Cui, K., Jose, C. C., Fuller, M. T., Zhao, K., Chen, X.
2012; 7 (5)
- **The receptor tyrosine phosphatase Lar regulates adhesion between *Drosophila* male germline stem cells and the niche** *DEVELOPMENT*
Srinivasan, S., Mahowald, A. P., Fuller, M. T.
2012; 139 (8): 1381-1390
- **Polycomb group genes Psc and Su(z)2 maintain somatic stem cell identity and activity in *Drosophila*.** *PloS one*
Morillo Prado, J. R., Chen, X., Fuller, M. T.
2012; 7 (12)
- **Germline Stem Cells** *COLD SPRING HARBOR PERSPECTIVES IN BIOLOGY*
Spradling, A., Fuller, M. T., Braun, R. E., Yoshida, S.
2011; 3 (11)
- **Role of Survivin in cytokinesis revealed by a separation-of-function allele** *MOLECULAR BIOLOGY OF THE CELL*

- Szafer-Glusman, E., Fuller, M. T., Giansanti, M. G.
2011; 22 (20): 3779-3790
- **Sequential changes at differentiation gene promoters as they become active in a stem cell lineage** *DEVELOPMENT*
Chen, X., Lu, C., Prado, J. R., Eun, S. H., Fuller, M. T.
2011; 138 (12): 2441-2450
 - **E-Cadherin Is Required for Centrosome and Spindle Orientation in Drosophila Male Germline Stem Cells** *PLOS ONE*
Inaba, M., Yuan, H., Salzmann, V., Fuller, M. T., Yamashita, Y. M.
2010; 5 (8)
 - **The Drosophila SUN protein Spag4 cooperates with the coiled-coil protein Yuri Gagarin to maintain association of the basal body and spermatid nucleus** *JOURNAL OF CELL SCIENCE*
Kracklauer, M. P., Wiora, H. M., Deery, W. J., Chen, X., Bolival, B., Romanowicz, D., Simonette, R. A., Fuller, M. T., Fischer, J. A., Beckingham, K. M.
2010; 123 (16): 2763-2772
 - **Phosphatidylinositol 4,5-bisphosphate Directs Spermatid Cell Polarity and Exocyst Localization in Drosophila** *MOLECULAR BIOLOGY OF THE CELL*
Fabian, L., Wei, H., Rollins, J., Noguchi, T., Blankenship, J. T., Bellamkonda, K., Polevoy, G., Gervais, L., Guichet, A., Fuller, M. T., Brill, J. A.
2010; 21 (9): 1546-1555
 - **TRAPPII is required for cleavage furrow ingression and localization of Rab11 in dividing male meiotic cells of Drosophila** *JOURNAL OF CELL SCIENCE*
Robinett, C. C., Giansanti, M. G., Gatti, M., Fuller, M. T.
2009; 122 (24): 4526-4534
 - **Regulation of self-renewal, proliferation and differentiation in an adult stem cell lineage** *16th Annual Conference of the International-Society-of-Development-Biologists*
Fuller, M. T., Davies, E., Spence, A.
ELSEVIER SCIENCE BV.2009: S3-S3
 - **Molecular Evolution of the Testis TAFs of Drosophila** *MOLECULAR BIOLOGY AND EVOLUTION*
Li, V. C., Davis, J. C., Lenkov, K., Bolival, B., Fuller, M. T., Petrov, D. A.
2009; 26 (5): 1103-1116
 - **Centrosome misorientation reduces stem cell division during ageing** *NATURE*
Cheng, J., Turkel, N., Hemati, N., Fuller, M. T., Hunt, A. J., Yamashita, Y. M.
2008; 456 (7222): 599-U40
 - **A role for very-long-chain fatty acids in furrow ingression during cytokinesis in Drosophila spermatocytes** *CURRENT BIOLOGY*
Szafer-Glusman, E., Giansanti, M. G., Nishihama, R., Bolival, B., Pringle, J., Gatti, M., Fuller, M. T.
2008; 18 (18): 1426-1431
 - **Moesin and its activating kinase Slik are required for cortical stability and microtubule organization in mitotic cells** *JOURNAL OF CELL BIOLOGY*
Carreno, S., Kouranti, I., Glusman, E. S., Fuller, M. T., Echard, A., Payre, F.
2008; 180 (4): 739-746
 - **Asymmetric centrosome behavior and the mechanisms of stem cell division** *JOURNAL OF CELL BIOLOGY*
Yamashita, Y. M., Fuller, M. T.
2008; 180 (2): 261-266
 - **Regulation of Self-renewal and Differentiation in Adult Stem Cell Lineages: Lessons from the Drosophila Male Germ Line** *73rd Cold Spring Harbor Symposium on Quantitative Biology*
Davies, E. L., Fuller, M. T.
COLD SPRING HARBOR LABORATORY PRESS.2008: 137-145
 - **Centrosome misorientation reduces stem cell division during ageing.** *Nature*
Cheng, J., N. Turkel, N. Hemati, M. T. Fuller, A. J. Hunt, Y. M. Yamashita
2008; 456: 599-604
 - **The Drosophila homolog of the Exo84 exocyst subunit promotes apical epithelial identity** *JOURNAL OF CELL SCIENCE*
Blankenship, J. T., Fuller, M. T., Zallen, J. A.
2007; 120 (17): 3099-3110

- **Translational control of meiotic cell cycle progression and spermatid differentiation in male germ cells by a novel eIF4G homolog** *DEVELOPMENT*
Baker, C. C., Fuller, M. T.
2007; 134 (15): 2863-2869
- **Antagonistic roles of Rac and Rho in organizing the germ cell microenvironment** *CURRENT BIOLOGY*
Sarkar, A., Parikh, N., Hearn, S. A., Fuller, M. T., Tazuke, S. I., Schulz, C.
2007; 17 (14): 1253-1258
- **Male and female Drosophila germline stem cells: Two versions of immortality** *SCIENCE*
Fuller, M. T., Spradling, A. C.
2007; 316 (5823): 402-404
- **Phosphorylation of histone H4 Ser1 regulates sporulation in yeast and is conserved in fly and mouse spermatogenesis** *GENES & DEVELOPMENT*
Krishnamoorthy, T., Chen, X., Govin, J., Cheung, W. L., Dorsey, J., Schindler, K., Winter, E., Allis, C. D., Guacci, V., Khochbin, S., Fuller, M. T., Berger, S. L.
2006; 20 (18): 2580-2592
- **Stem cells and cancer: Two faces of eve** *CELL*
Clarke, M. F., Fuller, M.
2006; 124 (6): 1111-1115
- **Histone modifications in spermatogenesis** *31st Annual Meeting of the American-Society-of-Andrology*
Chang, S. L., Chen, X., McCallum, S., Fuller, M. T.
AMER SOC ANDROLOGY, INC.2006: 34-34
- **The class IPITP giotto is required for Drosophila cytokinesis** *CURRENT BIOLOGY*
Giansanti, M. G., Bonaccorsi, S., Kurek, R., Farkas, R. M., Dimitri, P., Fuller, M. T., Gatti, M.
2006; 16 (2): 195-201
- **Asymmetric stem cell division and function of the niche in the Drosophila male germ line** *INTERNATIONAL JOURNAL OF HEMATOLOGY*
Yamashita, Y. M., Fuller, M. T.
2005; 82 (5): 377-380
- **Signaling in stem cell niches: lessons from the Drosophila germline** *JOURNAL OF CELL SCIENCE*
Yamashita, Y. M., Fuller, M. T., Jones, D. L.
2005; 118 (4): 665-672
- **Belle is a Drosophila DEAD-box protein required for viability and in the germ line** *DEVELOPMENTAL BIOLOGY*
Johnstone, O., Deuring, R., Bock, R., Linder, P., Fuller, M. T., Lasko, P.
2005; 277 (1): 92-101
- **Testis-specific TAF homologs collaborate to control a tissue-specific transcription program** *DEVELOPMENT*
Hiller, M., Chen, X., Pringle, M. J., Suchorolski, M., Sancak, Y., Viswanathan, S., Bolival, B., Lin, T. Y., Marino, S., Fuller, M. T.
2004; 131 (21): 5297-5308
- **Germ-line specific variants of components of the mitochondrial outer membrane import machinery in Drosophila** *FEBS LETTERS*
Hwa, J. J., Zhu, A. J., Hiller, M. A., Kon, C. Y., Fuller, M. T., Santel, A.
2004; 572 (1-3): 141-146
- **A misexpression screen reveals effects of bag-of-marbles and TGF beta class signaling on the Drosophila male germ-line stem cell lineage** *GENETICS*
Schulz, C., Kiger, A. A., Tazuke, S. I., Yamashita, Y. M., Pantalena, L. C., Jones, D. L., Wood, C. G., Fuller, M. T.
2004; 167 (2): 707-723
- **Genetic dissection of meiotic cytokinesis in Drosophila males** *MOLECULAR BIOLOGY OF THE CELL*
Giansanti, M. G., Farkas, R. M., Bonaccorsi, S., Lindsley, D. L., Wakimoto, B. T., Fuller, M. T., Gatti, M.
2004; 15 (5): 2509-2522
- **Regulation of transcription of meiotic cell cycle and terminal differentiation genes by the testis-specific Zn-finger protein matotopetli** *DEVELOPMENT*
Perezgasga, L., Jiang, J. Q., Bolival, B., Hiller, M., Benson, E., Fuller, M. T., White-Cooper, H.
2004; 131 (8): 1691-1702

- **Germ line stem cell differentiation in Drosophila requires gap junctions and proceeds via an intermediate state** *DEVELOPMENT*
Gilboa, L., Forbes, A., Tazuke, S. I., Fuller, M. T., Lehmann, R.
2003; 130 (26): 6625-6634
- **Mitofusin-1 protein is a generally expressed mediator of mitochondrial fusion in mammalian cells** *JOURNAL OF CELL SCIENCE*
Santel, A., Frank, S., Gaume, B., Herrier, M., Youle, R. J., Fuller, M. T.
2003; 116 (13): 2763-2774
- **The Drosophila Cog5 homologue is required for cytokinesis, cell elongation, and assembly of specialized golgi architecture during spermatogenesis** *MOLECULAR BIOLOGY OF THE CELL*
Farkas, R. M., Giansanti, M. G., Gatti, M., Fuller, M. T.
2003; 14 (1): 190-200
- **Spatial and temporal association of Bax with mitochondrial fission sites, Drp1, and Mfn2 during apoptosis** *JOURNAL OF CELL BIOLOGY*
Karbowski, M., Lee, Y. J., Gaume, B., Jeong, S. Y., Frank, S., Nechushtan, A., Santel, A., Fuller, M., Smith, C. L., Youle, R. J.
2002; 159 (6): 931-938
- **Signaling from germ cells mediated by the rhomboid homolog stc organizes encapsulation by somatic support cells** *DEVELOPMENT*
Schulz, C., Wood, C. G., Jones, D. L., Tazuke, S. I., Fuller, M. T.
2002; 129 (19): 4523-4534
- **Differential expression of the Drosophila mitofusin genes fuzzy onions (fzo) and dmfn** *MECHANISMS OF DEVELOPMENT*
Hwa, J. J., Hiller, M. A., Fuller, M. T., Santel, A.
2002; 116 (1-2): 213-216
- **A germline-specific gap junction protein required for survival of differentiating early germ cells** *DEVELOPMENT*
Tazuke, S. I., Schulz, C., Gilboa, L., Fogarty, M., Mahowald, A. P., Guichet, A., Ephrussi, A., Wood, C. G., Lehmann, R., Fuller, M. T.
2002; 129 (10): 2529-2539
- **Genetic analysis of dPsa, the Drosophila orthologue of puromycin-sensitive aminopeptidase, suggests redundancy of aminopeptidases** *DEVELOPMENT GENES AND EVOLUTION*
Schulz, C., Perezgasga, L., Fuller, M. T.
2001; 211 (12): 581-588
- **Developmental regulation of transcription by a tissue-specific TAF homolog** *GENES & DEVELOPMENT*
Hiller, M. A., Lin, T. Y., Wood, C., Fuller, M. T.
2001; 15 (8): 1021-1030
- **Control of mitochondrial morphology by a human mitofusin** *JOURNAL OF CELL SCIENCE*
Santel, A., Fuller, M. T.
2001; 114 (5): 867-874
- **Transcription of meiotic cell cycle and terminal differentiation genes depends on a conserved chromatin associated protein, whose nuclear localisation is regulated** *DEVELOPMENT*
White-Cooper, H., Leroy, D., MacQueen, A., Fuller, M. T.
2000; 127 (24): 5463-5473
- **A phospholipid kinase regulates actin organization and intercellular bridge formation during germline cytokinesis** *DEVELOPMENT*
Brill, J. A., Hime, G. R., Scharer-Schuksz, M., Fuller, M. T.
2000; 127 (17): 3855-3864
- **Regulation of meiosis and spermatid differentiation in Drosophila primary spermatocytes** *XVth Testis Workshop on the Testis - From Stem Cell to Sperm Function*
Lin, T. Y., Pringle, M. J., Fuller, M. T.
SPRINGER-VERLAG.2000: 120-132
- **Developmental genetics of the essential Drosophila nucleoporin nup154: Allelic differences due to an outward-directed promoter in the P-element 3' end** *GENETICS*
Kiger, A. A., Gigliotti, S., Fuller, M. T.
1999; 153 (2): 799-812

- **Molecular characterization of mutant alleles of the DNA repair basal transcription factor haywire/ERCC3 in Drosophila** *GENETICS*
Mounkes, L. C., Fuller, M. T.
1999; 152 (1): 291-297
- **Mitochondrial fusion in yeast requires the transmembrane GTPase Fzo1p.**
Hermann, G. J., Thatcher, J. W., Mills, J. P., Hales, K. G., Fuller, M. T., Nunnari, J., Shaw, J. M.
CELL PRESS.1999: A2-A2
- **Mitochondrial fusion in yeast requires the transmembrane GTPase Fzo1p** *JOURNAL OF CELL BIOLOGY*
Hermann, G. J., Thatcher, J. W., Mills, J. P., Hales, K. G., Fuller, M. T., Nunnari, J., Shaw, J. M.
1998; 143 (2): 359-373
- **Genetic control of cell proliferation and differentiation in Drosophila spermatogenesis** *SEMINARS IN CELL & DEVELOPMENTAL BIOLOGY*
Fuller, M. T.
1998; 9 (4): 433-444
- **The zero population growth (zpg) gene is required for mitotic amplification stage of early germ cells in Drosophila.**
Tazuke, S., Schulz, C., Fogarty, M., Wood, C., Guichet, A., Ephrussi, A., Fuller, M. T.
ACADEMIC PRESS INC ELSEVIER SCIENCE.1998: 197-97
- **The DUG gene of Drosophila melanogaster encodes a structural and functional homolog of the S-cerevisiae SUG1 predicted ATPase associated with the 26S proteasome** *GENE*
Mounkes, L. C., Fuller, M. T.
1998; 206 (2): 165-174
- **Transcriptional and post-transcriptional control mechanisms coordinate the onset of spermatid differentiation with meiosis I in Drosophila** *DEVELOPMENT*
White-Cooper, H., Schafer, M. A., Alphey, L. S., Fuller, M. T.
1998; 125 (1): 125-134
- **A chromatin-associated kinesin-related protein required for normal mitotic chromosome segregation in Drosophila** *JOURNAL OF CELL BIOLOGY*
Molina, I., Baars, S., Brill, J. A., Hales, K. G., Fuller, M. T., Ripoll, P.
1997; 139 (6): 1361-1371
- **Differential expression of two gamma-tubulin isoforms during gametogenesis and development in Drosophila** *DEVELOPMENTAL BIOLOGY*
Wilson, P. G., Zheng, Y., Oakley, C. E., Oakley, B. R., Borisy, G. G., Fuller, M. T.
1997; 184 (2): 207-221
- **Monastral bipolar spindles: Implications for dynamic centrosome organization** *JOURNAL OF CELL SCIENCE*
Wilson, P. G., Fuller, M. T., Borisy, G. G.
1997; 110: 451-464
- **Assembly of ring canals in the male germ line from structural components of the contractile ring** *JOURNAL OF CELL SCIENCE*
Hime, G. R., Brill, J. A., Fuller, M. T.
1996; 109: 2779-2788
- **Coordinate developmental control of the meiotic cell cycle and spermatid differentiation in Drosophila males** *DEVELOPMENT*
Lin, T. Y., Viswanathan, S., Wood, C., Wilson, P. G., Wolf, N., Fuller, M. T.
1996; 122 (4): 1331-1341
- **RIDING THE POLAR WINDS - CHROMOSOMES MOTOR DOWN EAST** *CELL*
Fuller, M. T.
1995; 81 (1): 5-8
- **A CYTOPLASMIC DYNEIN MOTOR IN DROSOPHILA - IDENTIFICATION AND LOCALIZATION DURING EMBRYOGENESIS** *JOURNAL OF CELL SCIENCE*
Hays, T. S., Porter, M. E., McGrail, M., GRISSOM, P., GOSCH, P., Fuller, M. T., McIntosh, J. R.
1994; 107: 1557-1569
- **A DROSOPHILA MODEL FOR XERODERMA-PIGMENTOSUM AND COCKAYNES-SYNDROME - HAYWIRE ENCODES THE FLY HOMOLOG OF ERCC3, A HUMAN EXCISION REPAIR GENE** *CELL*

- Mounkes, L. C., Jones, R. S., Liang, B. C., Gelbart, W., Fuller, M. T.
1992; 71 (6): 925-937
- **FORCE AND COUNTERFORCE IN THE MITOTIC SPINDLE** *CELL*
Fuller, M. T., Wilson, P. G.
1992; 71 (4): 547-550
 - **DIFFERENTIAL EXPRESSION AND BEHAVIOR OF 2 GAMMA TUBULIN ISOFORMS IN DROSOPHILA**
Wilson, P. G., Zheng, Y., Oakley, E., Oakley, B., Fuller, M. T.
AMER SOC CELL BIOLOGY.1992: A346-A346
 - **2 TYPES OF GENETIC INTERACTION IMPLICATE THE WHIRLIGIG GENE OF DROSOPHILA-MELANOGASTER IN MICROTUBULE ORGANIZATION IN THE FLAGELLAR AXONEME** *GENETICS*
Green, L. L., Wolf, N., McDonald, K. L., Fuller, M. T.
1990; 126 (4): 961-973
 - **INTERACTING GENES THAT AFFECT MICROTUBULE FUNCTION IN DROSOPHILA-MELANOGASTER - 2 CLASSES OF MUTATION REVERT THE FAILURE TO COMPLEMENT BETWEEN HAYNC2 AND MUTATIONS IN TUBULIN GENES** *GENETICS*
Regan, C. L., Fuller, M. T.
1990; 125 (1): 77-90
 - **INTERACTING PROTEINS IDENTIFIED BY GENETIC INTERACTIONS - A MISSENSE MUTATION IN ALPHA-TUBULIN FAILS TO COMPLEMENT ALLELES OF THE TESTIS-SPECIFIC BETA-TUBULIN GENE OF DROSOPHILA-MELANOGASTER** *MOLECULAR AND CELLULAR BIOLOGY*
Hays, T. S., Deuring, R., Robertson, B., Prout, M., Fuller, M. T.
1989; 9 (3): 875-884
 - **INTERACTING GENES IDENTIFY INTERACTING PROTEINS INVOLVED IN MICROTUBULE FUNCTION IN DROSOPHILA** *CELL MOTILITY AND THE CYTOSKELETON*
Fuller, M. T., Regan, C. L., Green, L. L., Robertson, B., Deuring, R., Hays, T. S.
1989; 14 (1): 128-135
 - **MUTATIONS THAT ENCODE PARTIALLY FUNCTIONAL BETA-2 TUBULIN SUBUNITS HAVE DIFFERENT EFFECTS ON STRUCTURALLY DIFFERENT MICROTUBULE ARRAYS** *JOURNAL OF CELL BIOLOGY*
Fuller, M. T., CAULTON, J. H., Hutchens, J. A., Kaufman, T. C., Raff, E. C.
1988; 107 (1): 141-152
 - **TEMPORAL AND SPATIAL PATTERN OF DIFFERENCES IN MICROTUBULE BEHAVIOR DURING DROSOPHILA EMBRYOGENESIS REVEALED BY DISTRIBUTION OF A TUBULIN ISOFORM** *DEVELOPMENT*
Wolf, N., Regan, C. L., Fuller, M. T.
1988; 102 (2): 311-324
 - **INTERACTING GENES THAT AFFECT MICROTUBULE FUNCTION - THE NC2 ALLELE OF THE HAYWIRE LOCUS FAILS TO COMPLEMENT MUTATIONS IN THE TESTIS-SPECIFIC BETA-TUBULIN GENE OF DROSOPHILA** *GENES & DEVELOPMENT*
Regan, C. L., Fuller, M. T.
1988; 2 (1): 82-92
 - **GENETIC-ANALYSIS OF MICROTUBULE STRUCTURE - A BETA-TUBULIN MUTATION CAUSES THE FORMATION OF ABERRANT MICROTUBULES INVIVO AND INVITRO** *JOURNAL OF CELL BIOLOGY*
Fuller, M. T., CAULTON, J. H., Hutchens, J. A., Kaufman, T. C., Raff, E. C.
1987; 104 (3): 385-394
 - **ASSEMBLY INVITRO OF BACTERIOPHAGE-P22 PROCAPSIDS FROM PURIFIED COAT AND SCAFFOLDING SUBUNITS** *JOURNAL OF MOLECULAR BIOLOGY*
Fuller, M. T., KING, J.
1982; 156 (3): 633-665
 - **STUDIES OF VIRUS STRUCTURE BY LASER RAMAN-SPECTROSCOPY .10. STRUCTURAL STUDIES OF P22 PHAGE, PRECURSOR PARTICLES, AND PROTEINS BY LASER RAMAN-SPECTROSCOPY** *BIOCHEMISTRY*
THOMAS, G. J., Li, Y., Fuller, M. T., KING, J.
1982; 21 (16): 3866-3878

- **REGULATION OF TUBULIN GENE-EXPRESSION DURING EMBRYOGENESIS IN DROSOPHILA-MELANOGASTER** *CELL*
Raff, E. C., Fuller, M. T., Kaufman, T. C., Kempfues, K. J., RUDOLPH, J. E., Raff, R. A.
1982; 28 (1): 33-40
- **PURIFICATION OF THE COAT AND SCAFFOLDING PROTEINS FROM PROCAPSIDS OF BACTERIOPHAGE P22** *VIROLOGY*
Fuller, M. T., KING, J.
1981; 112 (2): 529-547
- **Investigations of bacteriophage P22 by laser Raman spectroscopy.** *Progress in clinical and biological research*
Li, Y., Thomas, G. J., Fuller, M., KING, J.
1981; 64: 271-283
- **Scaffolding proteins and the genetic control of virus shell assembly.** *Quarterly review of biology*
KING, J., Griffin-Shea, R., Fuller, M. T.
1980; 55 (4): 369-393
- **REGULATION OF COAT PROTEIN POLYMERIZATION BY THE SCAFFOLDING PROTEIN OF BACTERIOPHAGE-P22** *BIOPHYSICAL JOURNAL*
Fuller, M. T., KING, J.
1980; 32 (1): 381-401
- **STUDIES OF VIRUS STRUCTURE BY LASER-RAMAN SPECTROSCOPY .5. INVESTIGATION OF SECONDARY STRUCTURES AND MACROMOLECULAR INTERACTIONS IN BACTERIOPHAGE-P22 BY LASER RAMAN-SPECTROSCOPY** *BIOPHYSICAL JOURNAL*
FISH, S. R., Hartman, K. A., Fuller, M. T., KING, J., THOMAS, G. J.
1980; 32 (1): 234-237
- **GENETIC-CONTROL OF ORGANELLE ASSEMBLY AT THE MOLECULAR-LEVEL .4. SCAFFOLDING PROTEINS AND THE GENETIC-CONTROL OF VIRUS SHELL ASSEMBLY** *QUARTERLY REVIEW OF BIOLOGY*
KING, J., GRIFFINSHEA, R., Fuller, M. T.
1980; 55 (4): 369-393