

CURRICULUM VITAE
GERALD J. WYCKOFF

Assistant Professor, School of Biological Sciences
University of Missouri-Kansas City
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PERSONAL

Birth Date - October 28th, 1972
Place of Birth - Amityville, New York
Citizenship – United States of America

EDUCATION

| <u>Institution</u> | <u>Graduated</u> | <u>Degree Obtained</u> |
|--|------------------|------------------------|
| The University of Chicago, Chicago, IL | | Postdoc training |
| The University of Chicago, Chicago, IL | 2000 | Ph.D. |
| Cornell University, Ithaca, NY | 1994 | BS |

TEACHING AND RESEARCH

Academic Positions:

| | | |
|------------------------------------|--------------|---|
| University of Missouri-Kansas City | 2002-present | Assistant Professor, Div. of Molecular Biology & Biochemistry, School of Biological Sciences |
| University of Missouri-Kansas City | 2002-present | Associate Director, Bioinformatics Consortium |
| University of Chicago | 2000-2002 | Postdoctoral fellow, Dep. of Human Genetics |
| University of Chicago | 1994-2000 | Thesis Research, Committee on Genetics |
| Cornell University | 1992-1994 | Undergraduate Research, Dep. of Ecology and Evolution |

Courses Taught:

Bioinformatics LSBIOC 425/525
Introduction to Evolution LSBIOC 405

SCHOLASTIC HONORS AND FELLOWSHIPS

2001 Committee on Genetics Award for Achievement in the field of Genetics, Chicago.

PROFESSIONAL SOCIETIES AND ACTIVITIES:

National and International Committees:

None

Professional Organizations:

- Society for the Study of Evolution
- Genetics Society of America
- American Society of Human Genetics

State Committees:

None

Editorial Boards:

None

RESEARCH AREAS OF INTEREST:

Molecular Evolutionary Genetics
Primate Evolution
Bioinformatics for high-throughput genomic analysis.

RESEARCH SUPPORT (last five years)

| <u>Project Title:</u> | <u>Agency and Project Period:</u> | <u>Annual Budget:</u> |
|--|-----------------------------------|-----------------------|
| <u>Funded</u> | | |
| Creation and Maintenance of an Expression Annotation Database. U. Miami | 1/01/04-12/31/04 | \$21,400 |
| Instructional Technology for Life Science Teachers. Missouri DHE. | 5/01/04-8/1/05. | \$147,000 |
| Evolutionary Constraint, Metabolic Pathways, and Expression. UMRB | 08/01/2004-08/01/2005 | \$49,811 |
| Evolutionary analysis of two human disease related metalloproteinase genes. UM FRG | 06/2004-06/2005 | \$6,650 |
| <u>Pending</u> | | |
| Identification and Annotation of the Salivary Proteome. NIH. | 08/01/04-08/01/08 | \$5,507,461 |
| Bioinformatics for Teachers and Students. NSF | 9/1/04-8/31/07. | \$1,538,689 |

ADMINISTRATIVE EXPERIENCE

Associate Director, University of Missouri Bioinformatics Consortium

NATIONAL MEETINGS

Contributed Papers:

- American Society of Human Genetics Annual Meeting, 2003 Los Angeles, CA- Poster Presentation: Conservation does not equal Constraint. (National Meeting)
- Society for the Study of Evolution, 2003 Chico, CA- Contributed paper- Natural selection on amino acid changes Hua Tang, Gerald J. Wyckoff, Hurng-Yi Wang, Justin C. Fay, Chung-I Wu; (National Meeting)
- Keystone Genomics Conference, February 2003, Santa Fe, NM- Poster presentation, “Large Scale Genomic Analysis”.
- American Society of Human Genetics Annual Meeting, 1997 Baltimore, Maryland- Poster Presentation: Sexual selection at the molecular level in Primates. (National Meeting)
- Midwest Drosophila Meeting, 1999 Allerton Park, Illinois- Poster Presentation: Analysis of Drosophila polymorphism and divergence; gene survey leading to evidence of molecular level selection. (Regional meeting)
- Society for the Study of Evolution Annual Meeting, 1999 Madison, Wisconsin- Oral Presentation: Analysis of a set of Male reproductive genes in primates. (National meeting)
- Society for the Study of Evolution Annual Meeting, 1998, Vancouver, BC, CA- Oral Presentation: Rapid evolution of primate protamines. (National Meeting)

INVITED LECTURES

- University of Kansas Medical Center, 2004, Kansas City, Kansas- “Conservation does not Equal Constraint.”
- Kansas City Proteomics Consortium, February 2003, Kansas City, MO- “Evolutionary aspects of Genomic Analysis”.
- University of Kansas, Lawrence, Kansas., 2003 Dept of Molecular Biology- “An Evolutionary perspective on Genomic Analysis.”
- DoubletWist Inc., April 2001, Oakland, CA- Presentation to DoubletWist regarding Genomic Data Analysis, by invitation.(Corporation)
- SNP2000, 3rd International meeting on SNP and Complex Genetic Analysis, September 2000 Taos, New Mexico- Invited Speaker: Analysis of primate divergence and why it matters for Human SNP studies. (International meeting).
- DNA2000, International Symposium on the State-of-the-Art in Genetic Analysis, 2000 Boston, Massachusetts- Invited Speaker: Rapid Evolution of Male Reproduction Associated Genes in Primates.(International meeting)

PUBLICATIONS

1. Wyckoff, G.J., W. Wang, and C.-I Wu. Rapid Evolution of Male Reproductive Genes in the Descent of Man. *Nature*, **403**(6767):304-9, 2000
2. Fay, J.C., G.J. Wyckoff, and C.-I Wu. Positive and Negative selection on the Human

- Genome. *Genetics*, **158**(3):1227-34, 2001
3. Fay, J.C., G.J. Wyckoff, and C-I Wu. Testing the neutral theory of molecular evolution with genomic data from *Drosophila*. *Nature*, **415**(6875):1024-6, 2002
 4. Wyckoff, G.J., J. Li, and C.-I Wu. The dynamics of evolution toward new functions among mammalian Y chromosome genes. *Mol Biol Evol*, **19**(9):1633-6, 2002
 5. Dorus, S., G.J. Wyckoff, and B.T. Lahn. Mammalian Sex Chromosome Evolution (Article 792) in *Encyclopedia of the Human Genome*, Nature Publishing group, New York, New York, 2003
 6. Malcom, C.M., G.J. Wyckoff and B.T. Lahn Genic Mutation Rates in Mammals: Local Similarity, Chromosomal Heterogeneity, and X-Versus-Autosome Disparity. *Mol. Biol. Evol.* **20**(10):1633-41, 2003
 7. Tang, H., G.J. Wyckoff, J. Lu, and C.-I Wu (2004) A Universal Evolutionary Index for Amino Acid Changes. *Mol. Biol. Evol.* May (accepted, epub ahead of print)
 8. Dorus, S., P. Evans, G.J. Wyckoff, and B.T. Lahn (2004) "Evolution of the seminal protein gene SEMG2:intensity of positive selection correlates with levels of polyandry" *Nature Genetics* (accepted pending revision)

ABSTRACTS

1. Wyckoff, G.J., C.I Wu. Sexual Selection at the molecular level: Evolutionary analysis of two sperm associated proteins in Primates. *Am J. Hum. Gen.* **61**(s):A215, 1997
2. Malcom, C.M. and G.J. Wyckoff Chromosomal co-localization of genes with similar expression in mammalian evolution. *Am J. Hum. Gen.* **73**(s):A225, 2003
3. Wyckoff, G.J., C.M. Malcom, and J. Paschall Analysis of Conserved Domain evolution: Conservation does not equal constraint. *Am. J. Hum. Gen.* **73**(s):A1527, 2003
4. Paschall, J., V.L. Nelson, and G.J. Wyckoff. Evolutionary Analysis of metabolic genes and inborn errors of metabolism. *Am. J. Hum. Gen.* **73**(s):A1528, 2003