

**YANN C. KLIMENTIDIS**

*Curriculum Vitae*

Postdoctoral Fellow

Section on Statistical Genetics, Department of Biostatistics  
University of Alabama at Birmingham  
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**EDUCATION AND TRAINING**

Ph.D. (2008) Anthropology (Human Evolutionary Ecology); University of New Mexico;  
Thesis title: *"Using Genetic Admixture to Examine Social and Phenotypic Aspects of Ethnicity among New Mexican Hispanics and Native Americans."*

M.S. (2002) Anthropology (Human Evolutionary Ecology); University of New Mexico

B.A. (1998) Biology; Texas A&M University

**EMPLOYMENT HISTORY**

Jan. 2009 – present Postdoctoral Fellowship - Section on Statistical Genetics; University of Alabama at Birmingham.

Jun. 2005 – Dec. 2008 Course Instructor - Introduction to Human Evolutionary Ecology (and laboratory section for this course), Introduction to Biological Anthropology; University of New Mexico

Jan. 2003 – May 2008 Editorial Assistant - *Human Nature*; University of New Mexico

Aug. 2003 – Dec. 2003 Course Instructor - French 102; University of New Mexico

Jan. 2003 – Aug. 2003 Research Assistant - Tsimane Life History and Demography, Dr. Hillard Kaplan Professor; University of New Mexico

Sep. 2000 – Dec. 2002 Research Technician - Department of Biochemistry and Molecular Biology; University of New Mexico

Aug. 1998 – May 2002 Research Technician - Pediatrics and Molecular and Cellular Biology; Baylor College of Medicine, Houston, TX

**MAJOR RESEARCH INTERESTS**

- Genetic, evolutionary, and environmental/social basis for phenotypic and disease-risk variation across human populations
- Whole-genome prediction of complex traits
- Data mining and statistical learning applications in human genetics
- Genetic signatures of natural selection
- Genetic admixture
- Anthropological genetics

**PUBLICATIONS**

Paulina Gomez-Rubio, **Yann C. Klimentidis**, Ernesto Cantu-Soto, Maria M. Meza-Montenegro, Dean Billheimer, Zhenqiang Lu, Zhao Chen, Walter Klimecki. Indigenous American ancestry is associated with arsenic methylation efficiency in an admixed population of northwest Mexico. *Journal of Toxicology and Environmental Health. In press.*

**Yann C. Klimentidis**, Brahim Aissani, Mark Shriver, David B. Allison, Sadeep Shrestha (2011). Natural Selection among Eurasians at genomic regions associated with HIV-1 control. *BMC Evolutionary Biology*. 11: 173.

**Yann C. Klimentidis**, Guo-Bo Chen, Mardya Lopez-Alarcon, Jacqueline Harris, Christine Duarte, Jose Fernandez (2011). Testing the association of GWAS-identified variants with obesity-related traits in a multi-ethnic sample of children. *Archives of Medical Research*. In press.

Robert Makowsky, Nicholas Pajewski, **Yann C. Klimentidis**, Ana I. Vasquez, Christine Duarte, David B. Allison, Gustavo de los Campos (2011) Beyond missing heritability: Prediction of complex traits. *PLoS Genetics* 7(4): e1002051.

**Yann C. Klimentidis**, Marshall Abrams, Jelai Wang, Jose R. Fernandez, David B. Allison (2011) Natural selection at genomic regions associated with obesity and type-2 diabetes: East Asians and sub-Saharan Africans exhibit high levels of differentiation at type-2 diabetes regions. *Human Genetics*. 129: 407-418.

**Yann C. Klimentidis**, Akilah Dulin-Keita, Krista Casazza, Amanda Willig, David B. Allison, Jose R. Fernandez (2010) Genetic admixture, social-behavioral factors, and body composition are associated with blood pressure differently by racial-ethnic group among children. *Journal of Human Hypertension*. In press.

**Yann C. Klimentidis**, T. Mark Beasley, Hui-Yi Lin, Giulia Murati, Gregory E. Glass, Marcus Guyton, Wendy Newton, Matthew Jorgensen, Steven B. Heymsfield, Joseph Kemnitz, Lynn Fairbanks, & David B. Allison (2011) Canaries in the Coal Mine: A Cross-Species Analysis of the Plurality of Obesity Epidemics. *Proceedings of the Royal Society, B*. 278(1712):1626-32

**Yann C. Klimentidis**, Jasmin Divers, Krista Casazza, David B. Allison, Jose R. Fernandez (2010) Ancestry informative marker between THADA and BCL11A is associated with insulin-related traits in a racially diverse sample of children. *Human Genomics*. Jan 5(2):79-89.

Maria De Luca, **Yann C. Klimentidis**, Krista Casazza, Michelle Moses Chambers, Ruth Cho, Susan T. Harbison, Patricia Jumbo-Lucioni, Shaoyan Zhang, Jeff Leips, and Jose R. Fernandez. (2010) A conserved role for syndecan family members in the regulation of whole-body energy metabolism. *PLoS One* 5(6): e11286

Thomas C. Friedrich, Shari M. Piaskowski, Enrique J. León, Jessica R. Furlott, Nicholas J. Maness, Kimberly L. Weisgrau, Caitlin E. Mac Nair, Andrea M. Weiler, John T. Loffredo, Matthew R. Reynolds, K Y. Williams, **Yann C. Klimentidis**, Nancy A. Wilson, David B. Allison, and Eva G. Rakasz. (2010) High viremia is associated with high levels of *in vivo* MHC-I downregulation in rhesus macaques infected with SIVmac239. *Journal of Virology*, 84(10):5443-7.

Mauricio A Martins, Nancy A Wilson, Jason S Reed, Chanook D Ahn, **Yann C. Klimentidis**, David B Allison, and David I Watkins (2010) T-cell correlates of vaccine efficacy after a heterologous SIV challenge. *Journal of Virology*, 84(9):4352-65.

Laura E. Valentine, John T. Loffredo, Alex T. Bean, Enrique J. León, Caitlin E. MacNair, Dominic R. Beal, Shari M. Piaskowski, **Yann C. Klimentidis**, Simon M. Lank, Roger W. Wiseman, Jason T. Weinfurter, Gemma E. May, Eva G. Rakasz, Nancy A. Wilson, Thomas C. Friedrich, David H. O'Connor, David B. Allison, and David I. Watkins (2009) Infection with "escaped" virus variants impairs control of SIVmac239 replication in Mamu-B\*08+ macaques. *Journal of Virology*, 83(22) 11514-27.

**Yann C. Klimentidis**, Miller G, Shriver MD (2009) The relationship between European genetic admixture and body composition among Hispanics and Native Americans. *American Journal of Human Biology*, 21(3):377-382.

**Yann C. Klimentidis**, Shriver MD (2009) Estimating genetic admixture proportions from faces. *PLoS One*, 4(2): e4460.

**Yann C. Klimentidis**, Miller G, Shriver MD (2009) Genetic admixture, self-reported ethnicity, self-estimated admixture, and skin pigmentation among Hispanics and Native Americans. *American Journal of Physical Anthropology*, 138(4): 375-83.

Hadsell DL, Bonnette S, George J, Torres D, **Yann Klimentidis**, Gao S, Haney PM, Summy-Long J, Soloff MS, Parlow AF, Sirito M, Sawadogo M (2003) Diminished milk synthesis in upstream stimulatory factor 2 null mice is associated with decreased circulating oxytocin and decreased mammary gland expression of eukaryotic initiation factors 4E and 4G. *Molecular Endocrinology* 17(11):2251-67.

Hadsell DL, Alexeenko T, **Yann Klimentidis**, Torres D, Lee AV (2001) Inability of overexpressed des(1-3) human insulin-like growth factor I (IGF-I) to inhibit forced mammary gland involution is associated with decreased expression of IGF signaling molecules. *Endocrinology* 142: 1479-88.

### **SUBMITTED MANUSCRIPTS**

Jose R. Fernandez, **Yann C. Klimentidis**, Krista Casazza, Akilah Dulin-Keita. Genetic influences in childhood obesity: recent progress and recommendations for experimental designs. In review at *International Journal of Obesity*.

Ellen E. Quillen, Marc Bauchet, Abigail W. Bigham, Miguel E. Delgado-Burbano, Franz Faust, **Yann C. Klimentidis**, Xianyun Mao, Mark Stoneking, and Mark D. Shriver. *SLC24A5*, *MATP*, *OPRM1*, and *EGFR1* contribute to skin pigmentation differences between Indigenous Americans and Europeans. *Submitted*.

Gustavo de los Campos, **Yann C. Klimentidis**, Ana I. Vazquez, David B. Allison. Whole-genome prediction of life expectancy. *Submitted*.

### **MANUSCRIPTS IN PREPARATION**

Dominick Lemas, **Yann C. Klimentidis**, Howard H. Weiner, Diane M. O'Brien, Scarlett Hopkins, Kimber L. Stanhope, Peter J. Havel, David B. Allison, Jose R. Fernandez, Hemant K. Tiwari, Bert B. Boyer. Interactions between n-3 polyunsaturated fatty acids, obesity SNPs and genetic predisposition modify the risk of developing obesity in Yup'ik Eskimos. *In prep*.

**Yann C. Klimentidis**, Guo-Bo Chen, Jose Fernandez. Type-2 diabetes associated SNPs are associated with insulin-related traits among multi-ethnic children. *In prep*.

**Yann C. Klimentidis**, Ana Ines Vasquez, Robert Makowsky, David B. Allison, Gustavo de los Campos. Whole-genome prediction of height: testing different SNP models. *In prep*.

A.I. Vazquez, G. de los Campos, **Y.C. Klimentidis**, G.M.J. Rosa, D. Gianola D.B. Allison. Whole genome enabled prediction of skin cancer liability. *In prep*.

### **FUNDING**

#### **Pending:**

2011 - NIH - K01 Career Development Award – Whole-genome prediction of type-2 diabetes in various populations. Submitted in June, 2011 to NIDDK.

#### **Completed:**

- 2007 - Graduate Research Development - \$1,625
- Student Research Allocations Committee Grant (UNM) - \$400
- 2006 - Graduate Research Development - \$1,375
- 2006 - Student Research Allocations Committee Grant (UNM) - \$300
- Research Project and Travel Grant - \$622
- Research Project and Travel Grant - \$1,000
- 2005 - Graduate Research Development Grant (UNM) - \$1,000
- Research, Project and Travel Grant (UNM) - \$1,000
- 2004 - Student Research Allocations Committee Grant (UNM) – The use of ancestry informative genetic markers in examining human cognitive ecology - \$485
- Student Research Allocations Committee Grant (UNM) - The use of ancestry informative genetic markers in examining human cognitive ecology - \$390
- 2003 - Graduate Research Development Grant (UNM): The use of genetic ancestry markers in examining the ancestral population structure of New Mexicans and implications for behavioral and genetic perspectives on human evolution and New Mexican society – \$2,234.

Total funding thus far: \$10,431

### **PRESENTATIONS**

Natural Selection among Eurasians at genomic loci associated with HIV-1 control - Poster Presentation at the American Association of Physical Anthropology 2011 Meeting.

The genetic basis of blood pressure and population differences in blood pressure. **Invited talk** at the UAB Hypertension and Vascular Biology Seminar. March, 2011.

Natural Selection among Eurasians at genomic loci associated with HIV-1 control. Talk at the UAB Postdoctoral Research Day. February, 2011.

Natural Selection among Eurasians at genomic loci associated with HIV-1 control - Poster presented at the 2010 American Society of Human Genetics meeting. November, 2010.

Socio-Cultural, Behavioral, Physiological, and Genetic Factors Contribute to Racial/Ethnic Disparities in Blood Pressure Among Children - **Oral presentation** at the Obesity Society Meeting 2010.

Signatures of selection at obesity-implicated genes in a worldwide sample – **Oral Presentation** at the American Association of Physical Anthropology 2010 Meeting.

Signatures of natural selection at genetic regions associated with obesity and type-2 diabetes in a world-wide sample. Poster presented at the 2010 UAB School of Public Health Research Day

From Genome-Wide to World-Wide: Population Differentiation and Natural Selection at Obesity Genes – Poster presented at The Obesity Society Meeting; October, 2009.

The genetic and social correlates of elevated blood pressure among multi-ethnic/racial children. –Podium Presentation – The Obesity Society Meeting, October, 2009.

From Genome-Wide to World-Wide: Obesity Genes in Different Populations – Poster presented at the UAB Minority Health Research Center Research Day; April, 2009.

Signatures of natural selection at obesity-related loci: methods and preliminary findings – Poster presented at UAB School of Public Health Research Day; April 2009.

The cultural context of genetic ancestry in Hispanics and Native Americans in New Mexico – March 22, 2007 – Pennsylvania State University, Department of Anthropology.

Genetic admixture, phenotype, and perception of admixture in Hispanics and Native Americans in New Mexico. – American Association of Physical Anthropology Meeting – 2006.

The Use of AIMs (ancestry informative markers) in Examining Human Cognitive and Behavioral Ecology, and Phenotypic Diversity. Oct 10, 2003 at the University of New Mexico HEBS (Human Evolutionary and Behavioral Sciences) research network colloquium.

### **PROFESSIONAL AND OUTREACH SERVICE**

Science weblog - <http://yannklimentidis.blogspot.com/>

Grant Reader and Evaluator: University of New Mexico; Student Research Allocations Committee (Fall 2003 & 2004) Read and evaluated research grants from a variety of academic fields.

Anthropology Graduate Student Union: (2004-2005) Representative for Human Evolutionary Ecology subfield.

### **TEACHING**

Anthropology 150 – Instructor: Evolution and Human Emergence: Introduction to Biological Anthropology – (Spring 2007) – University of New Mexico, Albuquerque, NM - Responsible for all teaching, creation and grading of exams, quizzes and homeworks.

Anthropology 160 – Instructor: The Human Life Course: Introduction to Human Evolutionary Ecology. (Spring 2005, Fall 2005, Summer 2006, Summer 2007, Fall 2007): University of New Mexico, Albuquerque, NM - Responsible for all teaching, creation and grading of exams, quizzes and homeworks.

Anthropology 161L – Instructor: Introduction to Human Evolutionary Ecology - LAB. – (Fall 2007, Fall 2008) - Quantitative methods in Biological/Evolutionary Anthropology. University of New Mexico, Albuquerque, NM -

French 102 - Instructor – (Fall, 2003) Taught the class and was responsible for creating daily activities, quizzes, tests, and for grading. University of New Mexico, Albuquerque, NM.

### **MENTORING**

Giulianna Murati: UAB Summer student from Puerto Rico. Project: Genetic association between ancestry informative markers and insulin related-traits. Summer, 2009.

Grace Delgado: UAB Summer student from Puerto Rico. Project: Birth weight, genetic admixture, and metabolic outcomes among multi-ethnic children. Summer, 2010.

### **SHORT COURSES/WORKSHOPS**

Statistical Learning Methods For Genome-Based Prediction of Complex Traits; June 2011.

International Workshop on Statistical Genetics; Boulder, CO; March 2010.

Short Course on Model Selection and Multimodel Inference; UAB; January 2009.

**AWARDS**

UAB School of Public Health Research Day, Second Place - Poster presentation, April 2010.

Faculty of 1000 library of the top 2% of published articles in biology and medicine:

**Yann C. Klimentidis**, T. Mark Beasley, Hui-Yi Lin, Julianna Murati, Gregory E. Glass, Marcus Guyton, Wendy Newton, Matthew Jorgensen, Steven B. Heymsfield, Joseph Kemnitz, Lynn Fairbanks, & David B. Allison (2010) Canaries in the Coal Mine: A Cross-Species Analysis of the Plurality of Obesity Epidemics. Submitted to *Proceedings of the Royal Society, B*. 278(1712):1626-32.

Texas A&M University Dean's Award, 1997.

**REVIEWER FOR:**

PLoS Genetics

PLoS One

American Journal of Human Biology

American Anthropologist

Human Nature

PNAS

Obesity

South African Journal of Science

American Journal of Clinical Nutrition

**LANGUAGES**

Native speaker in French (and English)

Fluency in Spanish

**PROGRAMMING LANGUAGES**

R, Perl, Linux, Awk

**STATISTICAL AND GENETIC SOFTWARE**

R, SAS, PLINK, IAE (Individual Admixture Estimator), STRUCTURE, GENEPOP, LEADMIX, FSTAT, SWEEP, XP-EHH, BLR (Bayesian Linear Regression)

**REFERENCES**

David B. Allison

Professor & Head, Section on Statistical Genetics, Dept of Biostatistics

& Director, Nutrition & Obesity Research Center,

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University of Alabama at Birmingham

1665 University Boulevard

Birmingham, Alabama 35294

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Dr. Mark Shriver

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*Klimentidis, CV*

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Phone: 205-934-2029  
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Dr. Keith Hunley  
Department of Anthropology  
MSC01-1040  
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University of New Mexico  
Albuquerque, NM 87131  
Phone: 505-277-3308  
E-mail: khunley@unm.edu