

5/2016

YANN C. KLIMENTIDIS

Curriculum Vitae

Assistant Professor
Department of Epidemiology and Biostatistics
Mel and Enid Zuckerman College of Public Health
University of Arizona
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EDUCATION AND TRAINING

2012 - 2014	Arizona Clinical & Translational Research Graduate Certificate Program, University of Arizona
2009 - 2012	Postdoctoral Training, Statistical Genetics, Dept. of Biostatistics, University of Alabama at Birmingham
2008	Ph.D. Anthropology, University of New Mexico
2002	M.S. Anthropology, University of New Mexico
1998	B.A. Biology, Texas A&M University

EMPLOYMENT HISTORY

2012 – present	Assistant Professor, Epidemiology and Biostatistics, University of Arizona
2012 – present	Member, BIO5 Institute, University of Arizona, Tucson, AZ
2013 – present	Member, Graduate Interdisciplinary Program in Genetics, University of Arizona, Tucson, AZ
2012 – 2012	Instructor - Office of Energetics, School of Public Health; University of Alabama at Birmingham.
2009 – 2011	Postdoctoral Fellowship - Section on Statistical Genetics; University of Alabama at Birmingham.
2005 – 2008	Course Instructor - Introduction to Human Evolutionary Ecology (and laboratory section for this course), Introduction to Biological Anthropology; University of New Mexico
2003 – 2008	Editorial Assistant - <i>Human Nature</i> ; University of New Mexico
2000 – 2002	Research Technician - Department of Biochemistry and Molecular Biology; University of New Mexico
1998 – 2002	Research Technician - Pediatrics and Molecular and Cellular Biology; Baylor College of Medicine, Houston, TX

MAJOR RESEARCH INTERESTS

- Genetics of complex disease traits, health disparities, interactions of genetics with lifestyle
- Data mining and statistical learning applications in genetics of complex traits
- Population genetics, genetic admixture

PEER-REVIEWED PUBLICATIONS

1. **Klimentidis YC**, Arora A, Zhou J, Kittles R, Allison DB (2016). The genetic contribution of West-African ancestry to protection against central obesity in African-American men but not women: results from the ARIC and MESA studies. *Frontiers in Genetics*. In Press
2. **Klimentidis YC**, Arora A (2016) Interaction of Insulin Resistance and Related Genetic Variants with Triglyceride-Associated Genetic Variants. *Circulation: Cardiovascular Genetics*. 9(2): 154-161.
3. **Klimentidis YC**, Bea JW, Thompson P, Klimecki WT, Hu C, Wu G, Nicholas S, Ryckman KK, CHARGE Consortium Musculoskeletal Working Group, Chen Z (2016) Genetic Variant in *ACVR2B* Is Associated with Lean Mass. *Medicine & Science in Sports & Exercise*. In Press.
4. Duarte CW, **Klimentidis YC**, Harris JJ, Cardel M, Fernández JR (2015) Discovery of phenotypic networks from genotypic association studies with application to obesity. *International Journal of Data Mining and Bioinformatics*. 12(2): 129-143.
5. Reynolds RJ, Vazquez AI, Srinivasasainagendra V, **Klimentidis YC**, Bridges SL Jr, Allison DB, Singh JA (2015) Serum urate gene associations with incident gout, measured in the Framingham Heart Study, are modified by renal disease and not by body mass index. *Rheumatology International*. 36(2): 263-270.
6. **Klimentidis YC**, Arora A, Chougule A, Zhou J, Raichlen D. (2015) FTO association and interaction with time spent sitting. *International Journal of Obesity*. 40(3): 411-416.
7. Hibler EA, **Klimentidis YC**, Jurutka PW, Kohler LN, Lance P, Roe DJ, Thompson PA, Jacobs ET (2015) *CYP24A1* and *CYP27B1* Polymorphisms, Concentrations of Vitamin D Metabolites, and Odds of Colorectal Adenoma Recurrence. *Nutrition and Cancer*. 67(7):1131-41.
8. **Klimentidis YC**, Chougule A, Arora A, Frazier-Wood AC, Hsu CC. (2015) Triglyceride-increasing alleles associated with protection against type-2 diabetes. *PLoS Genetics*. 11(5):e1005204.
9. Vazquez AI, **Klimentidis YC**, Dhurandhar EJ, Veturi YC, Pérez-Rodríguez P. (2015) Assessment of Whole-Genome Regression for Type II Diabetes. *PLoS One*. 10(4):e0123818.
10. **Klimentidis YC**, Bea JW, Lohman T, Hsieh PS, Going S, Chen Z. (2015) High genetic-risk individuals benefit less from resistance exercise intervention. *International Journal of Obesity*. 39(9):1371-5.
11. Lebrón-Aldea D, Dhurandhar EJ, Pérez-Rodríguez P, **Klimentidis YC**, Tiwari HK, Vazquez AI (2015) Integrated genomic and BMI analysis for type-2 diabetes risk assessment. *Frontiers in Genetics*. 6:75.
12. **Klimentidis YC**, Chen Z, Arora A, Hsu CH (2014). Association of physical activity with lower type 2 diabetes incidence is weaker among individuals at high genetic risk. *Diabetologia*. 57(12):2530-2534.
13. **Klimentidis YC**, Zhou J, Wineinger NE (2014). Identification of allelic heterogeneity at type-2 diabetes loci and impact on prediction. *PLoS One*. 9(11):e113072.
14. **Klimentidis YC**, Wineinger NE, Vazquez AI, De los Campos G (2014). Multiple metabolic genetic risk scores and type 2 diabetes risk in three racial/ethnic groups. *Journal of Clinical Endocrinology and Metabolism*. 99(9):E1814-E1818.

15. Chen GB, Liu, N, **Klimentidis YC**, Zhu Z, Zhi D, Lou, XY (2014). A unified GMDR method for detecting gene-gene interactions in family and unrelated samples with application to nicotine dependence. *Human Genetics*. 133(2):139-50.
16. **Klimentidis YC**, Lemas DJ, Wiener HH, O'Brien DM, Havel PJ, Stanhope KL, Hopkins SE, Tiwari HK, Boyer BB (2014). *CDKAL1* and *HHEX* are associated with type-2 diabetes-related traits among Yup'ik people. *Journal of Diabetes*. 6 (3): 251-259.
17. **Klimentidis YC**, Vazquez AI, De los Campos G, Allison DB, Dransfield M, Thannickal VJ (2013). Heritability of pulmonary function estimated from pedigree and whole-genome markers. *Frontiers in Genetics*. 4:174.
18. De los Campos G, Vazquez AI, Fernando RL, **Klimentidis YC**, Sorensen D (2013). Prediction of Complex Human Traits Using the Genomic Best Linear Unbiased Predictor. *PLoS Genetics*. 9 (7), e1003608.
19. Aslibekyan S, Vaughan LK, Wiener HW, Lemas DJ, **Klimentidis YC**, Havel PJ, Stanhope KL, O'Brien DM, Hopkins SE, Boyer BB, Tiwari HK (2013). Evidence for novel genetic loci associated with metabolic traits in Yup'ik people. *American Journal of Human Biology*. 25: 673-80.
20. Lemas DJ, **Klimentidis YC**, Weiner HH, O'Brien DM, Hopkins S, Stanhope KL, Havel PJ, Allison DB, Fernandez JR, Tiwari HK, Boyer BB (2013). Obesity polymorphisms identified in genome-wide association studies interact with n-3 polyunsaturated fatty acid intake and modify the genetic association with adiposity phenotypes in Yup'ik people. *Genes and Nutrition*. 8: 495-505.
21. Malek AJ, **Klimentidis YC**, Kell KP, Fernandez JR (2013). Associations of the lactase persistence allele and lactose intake with body composition among multiethnic children. *Genes and Nutrition*. 8: 487-94.
22. Vazquez AI, de los Campos G, **Klimentidis YC**, Rosa GMJ, Gianola D, Yi N, Allison DB (2012). A Comprehensive Genetic Approach for Improving Prediction of Skin Cancer Risk in Humans. *Genetics*. 192(4):1493-502.
23. De los Campos G, **Klimentidis YC**, Vazquez AI, Allison DB (2012). Prediction of expected years of life using whole-genome markers. *PLoS One*. 7(7):e40964.
24. **Klimentidis YC**, Dulin-Keita A, Casazza K, Willig A, Allison DB, Fernandez JR (2012) Genetic admixture, social-behavioral factors, and body composition are associated with blood pressure differently by racial-ethnic group among children. *Journal of Human Hypertension*. 26(2):98-107
25. Quillen EE, Marc Bauchet M, Bigham AW, Delgado-Burbano ME, Faust F, **Klimentidis YC**, Mao X, Stoneking M, and Shriver MD (2012). OPRM1 and EGFR contribute to skin pigmentation differences between Indigenous Americans and Europeans. *Human Genetics*. 131(7):1073-80.
26. Fernandez JR, **Klimentidis YC**, Dulin-Keita A, Casazza K (2012). Genetic influences in childhood obesity: recent progress and recommendations for experimental designs. *International Journal of Obesity*. 36(4):479-84.
27. Gomez-Rubio P, **Klimentidis YC**, Cantu-Soto E, Meza-Montenegro MM, Billheimer D, Lu Z, Chen Z, Klimecki W (2012). Indigenous American ancestry is associated with arsenic methylation efficiency in an admixed population of northwest Mexico. *Journal of Toxicology and Environmental Health A*. 75(1): 36-49.

28. **Klimentidis YC**, Chen GB, Lopez-Alarcon M, Harris J, Duarte C, Fernandez JR (2011). Associations of Obesity Genes with Obesity-related Outcomes in Multiethnic Children. *Archives of Medical Research*. 42(6): 509-14.
29. Duarte CW, **Klimentidis YC**, Harris J, Cardel M, Fernandez JR (2011) A Hybrid Bayesian Network/Structural Equation (BN/SEM) Modeling Approach for Detecting Physiological Networks for Obesity-related Genetic Variants. *Proceedings. IEEE International Conference on Bioinformatics and Biomedicine*. 2011:696-702.
30. **Klimentidis YC**, Aissani B, Shriver MD, Allison DB, Sadeep Shrestha (2011). Natural Selection among Eurasians at genomic regions associated with HIV-1 control. *BMC Evolutionary Biology*. 11: 173.
31. Makowsky R, Pajewski N, **Klimentidis YC**, Vazquez AI, Duarte C, Allison DB, de los Campos G (2011) Beyond missing heritability: Prediction of complex traits. *PLoS Genetics* 7(4): e1002051.
32. **Klimentidis YC**, Abrams M, Wang J, Fernandez JR, Allison DB (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.
33. **Klimentidis YC**, T. Mark Beasley, Hui-Yi Lin, Julianna Murati, Gregory E. Glass, Marcus Guyton, Wendy Newton, Matthew Jorgensen, Steven B. Heymsfield, Joseph Kemnitz, Lynn Fairbanks, & Allison DB (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
34. **Klimentidis YC**, Divers J, Casazza K, Allison DB, Fernandez JR (2011) Ancestry-informative markers on chromosomes 2, 8 and 15 are associated with insulin-related traits in a racially diverse sample of children. *Human Genomics*. Jan 5(2):79-89.
35. De Luca M, **Klimentidis YC**, Casazza K, Chambers MM, Cho R, Harbison ST, Jumbo-Lucioni P, Zhang S, Leips J, and Fernandez JR. (2010) A conserved role for syndecan family members in the regulation of whole-body energy metabolism. *PLoS One* 5(6): e11286
36. Friedrich TC, Piaskowski SM, Léon EJ, Furlott JR, Maness NJ, Weisgrau KL, MacNair CE, Weiler AM, Loffredo JT, Reynolds MR, Williams KY, **Klimentidis YC**, Wilson NA, Allison DB, and Rakasz EG. (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.
37. Martins MA, Wilson NA, Reed JS, Ahn CD, **Klimentidis YC**, Allison DB, and Watkins DI (2010) T-cell correlates of vaccine efficacy after a heterologous SIV challenge. *Journal of Virology*, 84(9):4352-65.
38. Valentine LE, Loffredo JT, Bean AT, León EJ, MacNair CE, Beal DR, Piaskowski SM, **Klimentidis YC**, Lank SM, Wiseman RW, Weinfurter JT, May GE, Rakasz EG, Wilson NA, Friedrich TC, O'Connor DH, Allison DB, and Watkins DI (2009) Infection with "escaped" virus variants impairs control of SIVmac239 replication in Mamu-B*08+ macaques. *Journal of Virology*, 83(22) 11514-27.
39. **Klimentidis YC**, 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.

40. **Klimentidis YC**, Shriver MD (2009) Estimating genetic admixture proportions from faces. *PLoS One*, 4(2): e4460.
41. **Klimentidis YC**, 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.
42. Hadsell DL, Bonnette S, George J, Torres D, **Klimentidis Y**, 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.
43. Hadsell DL, Alexeenko T, **Klimentidis Y**, 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.

EXTRAMURAL FUNDING

Current

NIH K01 DK095032-01 Klimentidis (PI) 09/01/12 - 08/31/15

Whole-Genome Prediction of Type-2 Diabetes Susceptibility in Various Populations.

This is a career development award. The goal of the research component is to develop and test genomic prediction models for type-2 diabetes risk in different populations.

Role: PI

INVITED TALKS

“Type-2 Diabetes: When Genes Meet Lifestyle” – UA Genetics and Genomics Grand Rounds – May, 2015

“Type-2 Diabetes: When Genes Meet Lifestyle” – UA Nutrition Seminar – September, 2014

“Challenges in Analyzing Genetics of Complex Traits” – UA Biostatistics Seminar – February, 2014

“Genetic Prediction of Type-2 Diabetes: Present and Future” UA Graduate Interdisciplinary Program in Genetics – December, 2013

“Towards an Improved Prediction of Genetic Risk for Type-2 Diabetes”. NIDDK - Phoenix Branch, Phoenix, AZ. May 10, 2013.

“Genetics of Type-2 Diabetes Susceptibility – UA College of Public Health Epidemiology Seminar”. April, 2013

“The genetic basis of blood pressure and population differences in blood pressure”. UAB Hypertension and Vascular Biology Seminar. March, 2011.

PRESENTATIONS

Association of physical activity with lower type-2 diabetes incidence is weaker in those with high genetic risk. YC Klimentidis, Z. Chen, A. Arora, C. Hsu Poster presented at the American Society of Human Genetics annual meeting. October, 2014.

Multiple Metabolic-Related Genetic Risk Scores and Type-2 Diabetes Risk in Three Ethnic/Racial Groups. Klimentidis YC, Wineinger NE, Vazquez AI, de los Campos G. Poster presented at the American Diabetes Association. June, 2014.

High-dimensional genetic prediction of type-2 diabetes susceptibility. Poster presented at American Society of Human Genetics annual meeting. October, 2013.

Genetic variants in CAPN3 and ACVR2B are associated with lean body mass in postmenopausal women. Poster presented at the American Society of Bone Mineral Research annual meeting, October, 2013.

Prediction of human height with GWAS-identified SNPs – insights into genetic architecture. Poster presented at American Society of Human Genetics annual meeting. November, 2012.

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

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 IMPROVEMENT

NIDDK K01 Awardees Workshop at NIH Campus, Bethesda, MD.

NHGRI/UAB/Hudson Alpha Short Course on Next Generation Sequencing: Technology & Statistical Methods, December 2011.

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.

TEACHING

EPID/GENE 677 (2014, 2015)	<u>Principles of Genetic Association Studies</u> (co-taught with Dr. Stefano Guerra). University of Arizona.
EPID 696A (2015)	Director of <u>Epidemiology Seminar</u> (1 credit) University of Arizona.
Anthropology 161L (2007- 2008)	Instructor: <u>Introduction to Human Evolutionary Ecology - LAB.</u> - Quantitative methods in Biological/Evolutionary Anthropology. University of New Mexico.
Anthropology 150 (2007)	Instructor: <u>Evolution and Human Emergence: Introduction to Biological Anthropology</u> University of New Mexico.
Anthropology 160 (2005-2007)	Instructor: <u>The Human Life Course: Introduction to Human Evolutionary Ecology.</u> University of New Mexico.
French 102 (2003)	Instructor –Taught the class and was responsible for creating daily activities, quizzes, tests, and for grading. University of New Mexico.

MENTORING

Spring 2015 – Fall 2015	Honor's Thesis Project with undergraduate student – Lindsey Schader
Spring 2013 – current	Dissertation committee member for PhD Student – Ariella Gladstein
Spring 2014 – current	Dissertation committee member for PhD Student – Debbie Chen
Fall 2013 – Summer 2014	MPH Internship Preceptor – Amit Arora

Fall 2014 – current	MPH Committee Member – Nirmal Singh
Spring 2013	Independent Study CPH 399 with undergraduate student – Brielle Blackledge
Summer, 2010	Grace Delgado: UAB Summer student from Puerto Rico. Project: Birth weight, genetic admixture, and metabolic outcomes among multi-ethnic children.
Summer, 2009	Giulianna Murati: UAB Summer student from Puerto Rico. Project: Genetic association between ancestry informative markers and insulin related-traits. S

AWARDS

Second Place – Alabama Public Health Association, Poster presentation, May, 2012.

First Place - UAB School of Public Health Research Day, Poster presentation (Faculty category), April 2012.

Second Place - UAB School of Public Health Research Day, 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, Giulianna Murati, Gregory E. Glass, Marcus Guyton, Wendy Newton, Matthew Jorgensen, Steven B. Heymsfield, Joseph Kemnitz, Lynn Fairbanks, & Allison DB (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.

SERVICE/OUTREACH

Journal Referee for: PLoS Genetics; Annals of Epidemiology; Diabetologia; Human Genetics; Genome Medicine; Diabetology & Metabolic Syndrome; PLoS One; Ethnicity and Disease; American Journal of Human Biology; American Anthropologist; Human Nature; PNAS; Obesity; JAMA; American Journal of Clinical Nutrition; Current Diabetes Reviews; Annals of Human Genetics; Human Heredity; Molecular Carcinogenesis

University of Arizona

Undergraduate Epidemiology Track Workgroup; Spring, 2014

Epidemiology MPH Admissions; Spring, 2015

Media Interviews

Regarding publication on *FTO* and time spent sitting:
Reuters Health (New York), 10/20/2015

Regarding publication on triglyceride genes and type-2 diabetes risk:
Endocrine Today, 6/1/15
MedicalResearch.com, 5/26/15
104.1 KQTH live radio interview, 6/10/15
Tucson Lifestyle Magazine, 10/1/15

Regarding publication on resistance exercise intervention and genetic risk for obesity:
Daily Mail, 4/30/15

Live Science, 4/29/15
Shape Magazine, 3/23/16

Regarding publication on physical activity and genetic risk for type 2 diabetes:

Endocrine Today, 9/29/14
MedicalResearch.com, 9/26/14

Regarding publication on plurality of obesity epidemics:

The Atlantic Magazine, Science & Vie, Weekly Reader, Austrian Public Radio, and others (2010)

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), IMPUTE2, GCTA

REFERENCES

David B. Allison
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