

Curriculum Vitae

Rector Arya, Ph.D.

PERSONAL DATA:

Office Address: Department of Human Genetics, and
South Texas Diabetes and Obesity Institute
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Citizenship: United States of America

EDUCATION:

Year	Degree	Discipline/Institution/Location
1999	PhD	Biological Anthropology/Population Genetics The University of Kansas, Lawrence, KS, USA
1990	MEd	Education (Research Methods, Statistics) Annamalai University, Annamalai Nagar, India
1984	BEd	Education (Methods of Teaching Biology & English) Nagarjuna University, Nagarjuna Nagar, India
1982	MA	Anthropology (Biological) Andhra University, Visakhapatnam, India
1980	BS	Biological and Geological Sciences (Geology, Zoology, Chemistry) Andhra University, Visakhapatnam, India

TRAINING:

Postdoctoral Fellowship

1999-2002	Genetic Epidemiology	School of Medicine/Clinical Epidemiology, The University of Texas Health Science Center, San Antonio, TX, USA
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ACADEMIC APPOINTMENTS:

11/2017 - Present	Assistant Professor/Research, Department of Human Genetics, School of Medicine, The University of Texas Rio Grande Valley,
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Edinburg, Texas, USA

- 11/2014 - Present Assistant Professor/Research, South Texas Diabetes and Obesity Institute, School of Medicine, The University of Texas Rio Grande Valley, Edinburg, Texas
- 09/2010 - 10/2014 Assistant Professor, Department of Pediatrics, The University of Texas Health Science Center, San Antonio, Texas
- 05/2005 – 07/2010 Assistant Scientist (Adjunct), Department of Genetics, Texas Biomedical Research Institute, San Antonio, TX
- 05/2004 - 08/2010 Assistant Professor, Department of Medicine/Clinical Epidemiology, University of Texas Health Science Center, San Antonio, TX
- 03/2002 - 04/2004 Instructor, Department of Medicine/ Clinical Epidemiology, University of Texas Health Science Center, San Antonio, TX

HONORS, AWARDS, FELLOWSHIPS, AND SCHOLARSHIPS:

- 05/1985 Senior Research Fellowship: Department of Environment, Government of India
- 09/1991 National Overseas Scholarship: Scholarship for higher studies abroad
Government of India, Department of Environment
- 09/1996 Carroll Clark Award: Dept. of Anthropology, University of Kansas, Lawrence, KS
- 09/1997 Teaching Assistant: Department of Anthropology, The University of Kansas,
Lawrence, KS
- 10/1999 Plenary Session Presentation: Awarded by American Society of Human Genetics
- 01/2000 Mentor-based Postdoctoral Fellowship Award: Awarded by American Diabetes
Association
- 09/2003 The William K. Warren Diabetes Fellow Award: Awarded by the William K.
Warren Medical Research Institute and American Diabetes Association.
- 01/2007 American Heart Association-Scientist Development Grant –National
- 09/2014 Member, Frontiers of Nutrition and Research, Editorial Board

TEACHING EXPERIENCE:

- 07/1983 – 05/1988 Taught biological and social sciences to students at undergraduate level
in India.
- 08/1997 - 07/1998 Graduate Teaching Assistant, 1997-1998, Undergraduate/graduate
course taught: "Human Variation and Evolution" Fall 97 and Spring 98,
Department of Anthropology, University of Kansas, Lawrence, KS 66045.

RESEARCH EXPERIENCE AND EXPERTISE:

Ph.D., Dissertation: Genetic and Environmental Determinants of Anthropometric Phenotypes in Indian Caste Populations. Department of Anthropology, University of Kansas, Lawrence, KS, 1999. (Advisor: Dr. Michael H. Crawford, Ph.D.)

Genetic and Genomic Epidemiological Studies: As a biological anthropologist and genetic epidemiologist/statistical geneticist with more than 14 years of research experience in biomedical sciences particularly in human genetics and genomics, I have been conducting family- and population-based genetic epidemiological studies in human populations, particularly Mexican Americans.

RESEARCH INTERESTS:

My major research and teaching areas of interest are human biology, human genetics including population genetics, quantitative genetics, genetic epidemiology; anthropology including anthropological genetics of human populations, human growth, human variation and evolution; nutrition including nutritional epidemiology, nutrigenetics, and nutrigenomics; biostatistics and bioinformatics; and Omic studies (genomics, metabolomics, and transcriptomics).

PROFESSIONAL ACTIVITIES:**Invited Talks and Participation in Conferences, Seminars, and Workshops:**

Participant, the University of Kentucky/NIH/National Institute of General Medical Sciences Faculty Grant Writing Workshop, March 11- 13, 2019, The University of Kentucky, in Lexington.

Invited speaker, the XXXIII Annual Conference of the Indian Society for Human Genetics and International Symposium on Genetics Revisited: The Genomics and Proteomics Advent hosted by the Department of Human Genetics, Andhra University, Visakhapatnam, India, February 11-13, 2008.

Invited speaker, training program on “Diversity to Discovery” sponsored by the Anthropological Survey of India, Mysore, India, February 15- 28, 2008.

Invited speaker, training program on “Diversity to Discovery” sponsored by Anthropological Survey of India, Mysore, India from April 20 to 22, 2007.

Invited speaker, “International Conference on Bioinformatics and Diabetes” Andhra University, Visakhapatnam, India, April 24-26, 2006.

Invited speaker, International Symposium, “Genetics of Common Complex Diseases (obesity, type 2 diabetes, addictions)”, Monterrey, Nuevo Leon, Mexico, September 14-15, 2005.

Invited speaker, Department of Medicine Research Conference, Genetics of Metabolic

Syndrome Phenotypes in Mexican Americans, University of Texas Health Science Center at San Antonio, TX, March 22, 2005.

Invited speaker, Indo-US Workshop on Genetics of Complex Diseases with an Emphasis on Type 2 Diabetes, Andhra University, Visakhapatnam, India, March 30-31 and April 1, 2004.

Member, Analysis and Mapping Committee, Consortium Linkage Studies of Type 2 Diabetes, 1999-present. Participant, Genetic Analysis Workshops (GAW) 11, 12, 13, and 14.

Participant, American Association of Anthropological Genetics 2nd workshop in Anthropological Genetics (Topic: Statistical Genetic Methods in Anthropological Research), San Antonio, Texas, October 14-16, 1995.

PROFESSIONAL AFFILIATIONS:

Fellow, The Obesity Society (TOS)

Member, American Diabetes Association (ADA)

Member, American Association of Anthropological Geneticists (AAAG)

PUBLICATIONS: *Journal Articles*

1. Busi BR, Modem S, **Arya R**, Jyothi GM. Food, dietary intake, and feeding practices in urban slums of Visakhapatnam. *The Indian Journal of Nutrition and Dietetics* 1987; 24:163-169.
2. Busi BR, Modem S, **Arya R**, Puppala S. Growth pattern among pre-school children in urban slums of Visakhapatnam *The Indian Journal of Nutrition and Dietetics* 1991;28:188-193.
3. Rao VV, Vasulu TS, **Arya R**. Possible paleopathological evidence of treponematosi s from a megalithic site at Agripalle, India. *American Journal of Physical Anthropology* 1996;100: 49-55.
4. Picornell A, Miguel A, Castro JA, Misericordia Ramon M, **Arya R**, Crawford MH. Genetic variation in the population of Ibiza (Spain): genetic structure, geography, and language. *Hum Biol* 1996 Dec; 68(6):899-913.
5. Duggirala R, Blangero J, Almasy L, **Arya R**, Dyer TD, Williams K, Leach R, Stern MP, O'Connell. A major locus for fasting insulin concentrations and insulin resistance on chromosome 6q with strong pleiotropic effects on obesity related phenotypes in non-diabetic Mexican Americans. *American Journal of Human Genetics* 2001; 68:1149-1164.
6. **Arya R**, Duggirala R, Williams JT, Almasy L, Blangero J. Power to localize the major gene for disease liability is increased after accounting for the effects of related quantitative phenotypes. *Genet Epidemiol* 2001;21 Su:774-778.
7. **Arya R**, Duggirala R, Almasy L, Rainwater D, Mahaney MC, Cole S, Dyer TD, Williams K, Leach RJ, Hixson JE, MacCluer JW, O'Connell P, Stern MP, Blangero J. Strong evidence for linkage of high-density lipoprotein cholesterol (HDL-C) concentrations to a

- genetic location on chromosome 9p in Mexican Americans. *Nature Genetics* 2002; 30:102-105.
8. **Arya R**, Blangero J, Williams K, Almasy L, Dyer TD, Leach RJ, O'Connell P, Stern MP, Duggirala R. Factors of insulin resistance syndrome--related phenotypes are linked to genetic locations on chromosomes 6 and 7 in nondiabetic Mexican-Americans. *Diabetes* 2002; 51(3):841-847.
 9. **Arya R**, Duggirala R, Comuzzie AG, Puppala S, Modem S, Busi BR, Crawford MH. Heritability of anthropometric phenotypes in caste populations of Visakhapatnam, India. *Hum Biol* 2002; 74(3):325-344.
 10. Duggirala R, Uttley M, Williams K, **Arya R**, Blangero J, Crawford MH. Genetic determination of biological age in the Mennonites of the Midwestern United States. *Genet Epidemiol* 2002; 23(2):97-109.
 11. **Arya R**, Lehman D, Hunt KJ, Schneider J, Almasy L, Blangero J, Stern MP, Duggirala R. Evidence for bivariate linkage of obesity and HDL-C levels in the Framingham Heart Study. *BMC Genet* 2003; 4:52:278-282.
 12. Duggirala R, Almasy L, Blangero J, Jenkinson CP, **Arya R**, DeFronzo RA, Stern MP, O'Connell P. Further evidence for a type 2 diabetes susceptibility locus on chromosome 11q. *Genet Epidemiol* 2003; 24(3):240-242.
 13. **Arya R**, Duggirala R, Jenkinson CP, Almasy L, Blangero J, O'Connell P, Stern MP. Evidence of a novel quantitative-trait locus for obesity on chromosome 4p in Mexican Americans. *Am J Hum Genet* 2004; 74(2):272-282.
 14. Hunt K, Lehman DM, **Arya R**, Fowler S, Leach RJ, Goring HHH, Almasy L, Blangero J, Dyer TD, Duggirala R, Stern MP. Genome-wide linkage analyses of type 2 diabetes in Mexican Americans: The San Antonio Family Diabetes/Gallbladder Study. *Diabetes* 2005; 54:2655-2662.
 15. Lehman DM, **Arya R**, Blangero J, Almasy L, Puppala S, Dyer TD, Leach RJ, O'Connell P, Stern MP, Duggirala R. Bivariate linkage analysis of the insulin resistance syndrome phenotypes on chromosome 7q. *Hum Biol.* 2005; 77(2):231-46. PubMed PMID: 16201139.
 16. Qunibi WY, Abouzahr F, Mizani MR, Nolan CR, **Arya R**, Hunt KJ. Cardiovascular calcification in Hispanic Americans (HA) with chronic kidney disease (CKD) due to type 2 diabetes. *Kidney International* 2005; 68:271-277.
 17. Lehman DM, Fu DJ, Freeman AB, Hunt KJ, Leach RJ, Johnson-Pais TL, Hamlington J, Dyer TD, **Arya R**, Abboud H, Göring HH, Duggirala R, Blangero J, Konrad RJ, Stern MP, Johnson-Pais TL. A single nucleotide polymorphism in MGEA5 encoding O-GlcNAc-selective N-acetyl-beta-D glucosaminidase is associated with type 2 diabetes in Mexican Americans. *Diabetes* 2005; 54(4):1214-1221.
 18. Rincon-Choles, H, Thameem F, Lehman DM, **Arya R**, Arar NH, Duggirala R, Stern MP, Abboud HE. Genetic basis of diabetic nephropathy. *American Journal of Therapeutics* 2005; 12(6):555-561.

19. **Arya R**, Dyer TD, Warren DM, Jenkinson CP, Duggirala R, Almasy L. Effect of genotype x alcoholism interaction on linkage analysis of an alcoholism-related quantitative phenotype. *BMC Genet* 2005; 6 (Suppl.1): S120, 1-6.
20. Puppala S, Dodd GD, Fowler S, **Arya R**, Schneider J, Farook VS, Granato R, Dyer TD, Almasy L, Jenkinson CP, Diehl AK, Stern MP, Blangero J, Duggirala R. A genome-wide search finds major susceptibility loci for gallbladder disease on chromosome 1 in Mexican Americans. *Am J Hum Genet* 2006; 78(3):377-392.
21. **Arya R**, Demerath E, Jenkinson CP, Göring HH, Puppala S, Farook V, Fowler S, Schneider J, Granato R, Resendez RG, Dyer TD, Cole SA, Almasy L, Comuzzie AG, Siervogel RM, Bradshaw B, DeFronzo RA, MacCluer J, Stern MP, Towne B, Blangero J, Duggirala R. A quantitative trait locus (QTL) on chromosome 6q influences birth weight in two independent family studies. *Hum Mol Genet* 2006; 15(10):1569-1579.
22. Lehman DM, Hamlington J, Hunt KJ, Leach RJ, **Arya R**, Abboud HE, Duggirala R, Blangero J, Göring HH, Stern MP. A novel missense mutation in *ADRB3* increases risk for type 2 diabetes in a Mexican American family. *Diabetes Metab Res Rev* 2006; 22(4):331-336.
23. Richardson DK, Schneider J, Fourcaudot MJ, Rodriguez LM, **Arya R**, Dyer TD, Almasy L, Blangero J, Stern MP, DeFronzo RA, Duggirala R, Jenkinson CP. Association between variants in the genes for adiponectin and its receptors with insulin resistance syndrome (IRS)-related phenotypes in Mexican Americans. *Diabetologia* 2006; 49(10):2317-2328.
24. Lehman DM, Hunt KJ, Leach RJ, Hamlington J, **Arya R**, Abboud HE, Duggirala R, Blangero J, Göring HH, Stern MP. Haplotypes of transcription factor 7-like 2 (*TCF7L2*) gene and its upstream region are associated with type 2 diabetes and age of onset in Mexican Americans. *Diabetes* 2007; 56:389-393.
25. Lehman DM, Richardson DK, Jenkinson CP, Hunt KJ, Dyer TD, Leach RJ, **Arya R**, Abboud HE, Blangero J, Duggirala R, Stern MP. P2 promoter variants of the hepatocyte nuclear factor 4alpha gene are associated with type 2 diabetes in Mexican Americans. *Diabetes* 2007; 56:513-517.
26. Malhotra A, Elbein SC, Ng MC, Duggirala R, **Arya R**, Imperatore G, Adeyemo A, Pollin TI, Hsueh WC, Chan JC, Rotimi C, Hanson RL, Hasstedt SJ, Wolford JK. Meta-analysis of genome-wide linkage studies of quantitative lipid traits in families ascertained for type 2 diabetes. *Diabetes* 2007; 56(3):890-896.
27. Saunders CL, Chiodini BD, Sham P, Lewis CM, Abkevich V, Adeyemo AA, de Andrade M, **Arya R**, Berenson GS, Blangero J, Boehnke M, Borecki IB, Chagnon YC, Chen W, Comuzzie AG, Deng HW, Duggirala R, Feitosa MF, Froguel P, Hanson RL, Hebebrand J, Huezo-Dias P, Kissebah AH, Li W, Luke A, Martin LJ, Nash M, Ohman M, Palmer LJ, Peltonen L, Perola M, Price RA, Redline S, Srinivasan SR, Stern MP, Stone S, Stringham H, Turner S, Wijmenga C, Collier DA. Meta-analysis of genome-wide linkage studies in BMI and obesity. *Obesity (Silver Spring)* 2007; 15(9):2263-2275.
28. Puppala S, **Arya R**, Thameem F, Arar NH, Bhandari K, Lehman DM, Schneider J, Fowler S, Farook VS, Diego VP, Almasy L, Blangero J, Stern MP, Duggirala R, Abboud

- HE. Genotype by diabetes interaction effects on the detection of linkage of glomerular filtration rate to a region on chromosome 2q in Mexican Americans. *Diabetes* 2007; 56(11):2818-2828.
29. Jenkinson CP, Coletta DK, Flechtner-Mors M, Hu SL, Fourcaudot MJ, Rodriguez LM, Schneider J, **Arya R**, Stern MP, Blangero J, Duggirala R, DeFronzo RA. Association of genetic variation in ENPP1 with obesity-related phenotypes. *Obesity (Silver Spring)*. 2008; 16(7):1708-13. doi: 10.1038/oby.2008.262. Epub 2008 May 8. PubMed PMID: 18464750.
 30. Guan W, Pluzhnikov A, Cox NJ, Boehnke M, Type 2 Diabetes Linkage Consortium (**Arya R**). Meta-analysis of 23 type 2 diabetes linkage studies from the international type 2 diabetes linkage analysis consortium. *Human Heredity* 2008; 66(1):35-46.
 31. Samudrala N, Farook VS, Dodd GD, Puppala S, Schneider J, Fowler S, Granato R, Dyer TD, **Arya R**, Almasy L, Jenkinson CP, Diehl AK, Blangero J, Duggirala R. Autosomal genome-wide linkage analysis to identify loci for gallbladder wall thickness in Mexican Americans. *Human Biology* 2008; 80(1):11-28.
 32. Coletta DK, Schneider J, Hu SL, Dyer TD, Puppala S, Farook VS, **Arya R**, Lehman DM, Blangero J, DeFronzo RA, Duggirala R, Jenkinson CP. Genome-wide linkage scan for genes influencing plasma triglyceride levels in the Veterans Administration Genetic Epidemiology Study. *Diabetes* 2009; 58(1):279-284.
 33. **Arya R**, Hare E, Del Rincon I, Jenkinson CP, Duggirala R, Almasy L, Escalante A. Effects of covariates and interactions on a genome-wide association analysis of rheumatoid arthritis. *BMC Proc* 2009 Dec;3 Sup:S84
 34. Puppala S, Coletta DK, Schneider J, Hu SL, Farook VS, Dyer TD, **Arya R**, Blangero J, Duggirala R, DeFronzo RA, Jenkinson CP. Genome-wide linkage screen for systolic blood pressure in the Veterans Administration Genetic Epidemiology Study (VAGES) of Mexican Americans and confirmation of a major susceptibility locus on chromosome 6q14.1. *Human Heredity* 2011; 71(1):1-10.
 35. Beuten J, Halder I, Fowler S, Goring HH, Duggirala R, **Arya R**, Thompson, Jr. IM, Leach RJ, Lehman DM. Wide disparity in genetic admixture among Mexican Americans from San Antonio, TX. *Ann Hum Genet* 2011; 75(4):529-538.
 36. Farook VS, Puppala S, Schneider J, Fowler SP, Chittoor G, Dyer TD, Allayee H, Cole SA, **Arya R**, Black MH, Curran JE, Almasy L, Buchanana TA, Jenkinson CP, Lehman DM, Watanabe RM, Blangero J, Duggirala R. Metabolic syndrome is linked to chromosome 7q21 and associated with genetic variants in CD36 and GNAT3 in Mexican Americans *Obesity* 2012 Mar
 37. Thameem F, Puppala S, Schneider J, Bhandari B, **Arya R**, Arar NH, Vasylyeva TL, Farook VS, Fowler SP, Almasy L, Blangero J, Duggirala R, Abboud HE. The Gly(972)Arg variant of human IRS1 gene is associated with variation in glomerular filtration rate likely through impaired insulin receptor signaling. *Diabetes* 2012; 61(9):2385-2393.
 38. Chittoor G, **Arya R**, Farook VS, David R, Resendez RG, Rivera-Chavira BE, Leal-

- Berumen I, Dhandayuthapani S, Blangero J, Crawford MH, Vlasich-De La Rosa EM, Escobedo L, Duggirala R. Epidemiologic investigation of tuberculosis in a Mexican population from Chihuahua State, Mexico: A pilot study. *Tuberculosis* 2013; 93(S1):S71-S77.
39. Fowler SP, Puppala S, **Arya R**, Chittoor G, Farook VS, Schneider J, Resendez RG, Upadhyay RP, Vandeberg J, Hunt KJ, Bradshaw B, Cersosimo E, Vandeberg JL, Almasy L, Curran JE, Comuzzie AG, Lehman DM, Jenkinson CP, Lynch JL, DeFronzo RA, Blangero J, Hale DE, Duggirala R. Genetic epidemiology of cardiometabolic risk factors and their clustering patterns in Mexican American children and adolescents: the SAFARI Study. *Hum Genet* 2013; 132(9):1059-1071.
40. Farook VS, Coletta DK, Puppala S, Schneider J, Chittoor G, Hu SL, Winnier DA, Norton L, Dyer TD, **Arya R**, Cole S, Carless M, Goring HH, Almasy L, Mahaney MC, Comuzzie AG, Curran JE, Blangero J, Duggirala R, Lehman DM, Jenkinson CP, DeFronzo RA. Linkage of type 2 diabetes on chromosome 9p24 in the Mexican Americans: Additional evidence from the Veterans Administration Genetic Epidemiology Study (VAGES) Human Heredity 2013; 76(1):36-46.
41. Farook VS, Reddivari L, Chittoor G, Puppala S, **Arya R**, Fowler SP, Hunt KJ, Curran JE, Comuzzie AG, Lehman DM, Jenkinson CP, Lynch JL, DeFronzo RA, Blangero J, Daniel HE, Duggirala R, Vanamala J. Metabolites as Novel Biomarkers for Childhood Obesity-Related Traits in Mexican American Children. *Pediatric Obesity* 2015;10(4):320-7.
42. Mahajan A, Sim X, Ng HJ, Manning A, Rivas MA, Highland HM, Locke AE, Grarup N, Im HK, Cingolani P, Flannick J, Fontanillas P, Fuchsberger C, Gaulton KJ, Teslovich TM, Rayner NW, Robertson NR, Beer NL, Rundle JK, Bork-Jensen J, Ladenvall C, Blanche C, Buck D, Buck G, Burtt NP, Gabriel S, Gjesing AP, Groves CJ, Hollensted M, Huyghe JR, Jackson AU, Jun G, Justesen JM, Mangino M, Murphy J, Neville M, Onofrio R, Small KS, Stringham HM, Syvänen AC, Trakalo J, Abecasis G, Bell GI, Blangero J, Cox NJ, Duggirala R, Hanis CL, Seielstad M, Wilson JG, Christensen C, Brandslund I, Rauramaa R, Surdulescu GL, Doney AS, Lannfelt L, Linneberg A, Isomaa B, Tuomi T, Jørgensen ME, Jørgensen T, Kuusisto J, Uusitupa M, Salomaa V, Spector TD, Morris AD, Palmer CN, Collins FS, Mohlke KL, Bergman RN, Ingelsson E, Lind L, Tuomilehto J, Hansen T, Watanabe RM, Prokopenko I, Dupuis J, Karpe F, Groop L, Laakso M, Pedersen, Florez JC, Morris AP, Altshuler D, Meigs JB, Boehnke M, McCarthy MI, Lindgren CM, Gloyn AL; T2D-GENES consortium and GoT2D consortium. [multi-author paper including **Arya R**]. Identification and Functional Characterization of G6PC2 Coding Variants Influencing Glycemic Traits Define an Effector Transcript at the G6PC2-ABCB11 Locus. *PLoS Genet*, 2015. 11 (1):e1004876. PMID: 25625282.
43. Rubicz R, Yolken R, Drigalenko E, Carless MA, Dyer TD, Kent J Jr, Curran JE, Johnson MP, Cole SA, Fowler SP, **Arya R**, Puppala S, Almasy L, Moses EK, Kraig E, Duggirala R, Blangero J, Leach CT, Goring HH. Genome-wide genetic investigation of serological measures of common infections. *Eur J Hum Genet*. 2015; 23 (11):1544-8. PubMed PMID: 25758998.
44. **Arya R**, Del Rincon I, Farook VS, Restrepo JF, Winnier DA, Fourcaudot MJ, Battafarano DF, Kumar S, de Almeida MAA, Curran JE, Jenkinson CP, Blangero J, Duggirala R, Escalante A. Genetic variants influencing joint damage in Mexican Americans and European Americans with rheumatoid arthritis. *Genetic Epidemiology* 2015;39(8):678 -

688.

45. Curran JE, Kumar S, Cromack DT, Hu SL, Coletta DK, Dyer TD, **Arya R**, Carless M, Tripathy D, Blangero J, Duggirala R, Göring HH, DeFronzo RA, Jenkinson CP. Transcriptomic identification of *adh1b* as a novel candidate gene for obesity and insulin resistance in human adipose tissue in Mexican Americans from the Veterans Administration Genetic Epidemiology Study (VAGES). *World Biomedical Frontiers, Diabetes and Obesity Section* ISSN; published online. ISSN: 2328-0166. <http://biomedfrontiers.org/diabetes-obesity-2015-9-11/>
46. Winnier DA, Fourcaudot M, Norton L, Abdul-Ghani MA, Hu SL, Farook VS, Coletta DK, Kumar S, Puppala S, Chittoor G, Dyer TD, **Arya R**, Carless M, Lehman DM, Curran JE, Cromack DT, Tripathy D, Blangero J, Duggirala R, Göring HH, DeFronzo RA, Jenkinson CP. Transcriptomic identification of *ADH1B* as a novel candidate gene for obesity and insulin resistance in human adipose tissue in Mexican Americans from the Veterans Administration Genetic Epidemiology Study (VAGES). *PLoS One*. 2015; 10(4): e0119941. doi: 10.1371/journal.pone.0119941. PubMed PMID: 25830378.
47. Jenkinson CP, Göring HH, **Arya R**, Blangero J, Duggirala R, DeFronzo RA. Transcriptomics in type 2 diabetes: Bridging the gap between genotype and phenotype. *Genom Data*. 2015. Dec 17;8:25-36. doi: 10.1016/j.gdata.2015.12.001. eCollection 2016 Jun. PubMed PMID: 27114903. (<http://dx.doi.org/10.1016/j.gdata.2015.12.001>)
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 22. **Arya R**, Schneider J, Puppala S, Fowler S, Dyer TD, Jenkinson CP, Almasy L, Blangero J, Stern MP, Duggirala R. Evidence for a major gene for abdominal obesity in Mexican Americans. 2005. *Obesity Research*; vol. 13, p. 201.
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 25. Farook VS, Puppala S, **Arya R**, Schneider J, Fowler S, Dyer TD, Cole SA, Almasy L, Blangero J, Stern MP, Duggirala R. Search for genetic variants in positional candidate genes on chromosome 7q21 for association with metabolic syndrome in Mexican Americans. 2006. *Diabetes*; vol. 55, S1, p. A256.
 26. **Arya R**, Puppala S, Farook VS, Schneider J, Fowler S, Arar N, Almasy L, Blangero J, Abboud HE, Stern MP, Duggirala R. Genetic factors commonly influence chronic kidney disease and the metabolic syndrome phenotypes in Mexican Americans. 2006. *Diabetes*; vol. 55, S1, p. A176.
 27. Puppala S, Duggirala R, Farook VS, Thameem F, Lehman D, Schneider J, Fowler S, Arar NH, **Arya R**, Almasy L, Blangero J, Stern M, Abboud HE. Strong evidence for linkage of albuminuria in the presence of genotype by diabetes interaction to a region on chromosome 5p in Mexican Americans. 2006. *Diabetes*; vol. 55, S1, p. A183
 28. Jenkinson CP, Coletta DK, Schneider J, Hu SL, Dyer TD, **Arya R**, Almasy L, Blangero J, Stern MP, Duggirala R, Defronzo RA. Identification of multiple genes contributing to type 2 diabetes and obesity related traits at chromosome 6q23 in Mexican Americans 2007. *Diabetes*; vol. 56, S1, p. A95.
 29. Farook VS, Coletta DK, Schneider J, Puppala S, Hu SL, Sathyanarayana P, Dyer TD, **Arya R**, Blangero J, Duggirala R, Jenkinson CP, Defronzo RA. Genome-wide scan for type 2 diabetes susceptibility genes in the Mexican Americans: The Veterans Administration Genetic Epidemiology Study (VAGES). 2007. *Diabetes*; vol. 56, S1, A303.
 30. Duggirala R, Fowler SP, Schneider J, Puppala S, Farook VS, Hunt KJ, **Arya R**, Bradshaw B, Almasy L, Comuzzie AG, Lynch JL, Jenkinson CP, MacCluer JW, Defronzo RA, Blangero J, Hale DE. The metabolic syndrome in Mexican American children: Preliminary findings from the San Antonio Family Assessment of Metabolic Risk

Indicators in Youth (SAFARI) study. 2007, Diabetes; vol. 56, S1, A489.

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32. **Arya R**, Thameem F, Jenkinson CP, Puppala S, Farook VS, Abboud HE, Stern MP, Blangero J, Lehman DM, Duggirala R. Associations of variants in peroxisome proliferator activated receptor gamma coactivator1 (*PPARGC1*) gene with obesity and type 2 diabetes in Mexican Americans. 2008. Diabetes; vol. 57, S1, p. A504.
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34. Puppala S, Fowler SP, Schneider J, Farook VS, Hunt KJ, Bradshaw B, Cersosimo E, **Arya R**, Almasy L, Comuzzie AG, Jenkinson CP, MacCluer JW, Lynch JL, DeFronzo RA, Blangero J, Hale DE, Duggirala R. Increased prevalence of type 2 diabetes related phenotypes and their genetic determinants in Mexican American children. 2008 Diabetes; vol. 57, S1.
35. Farook VS, Schneider J, Fowler SP, Puppala S, Mendoza C, Hunt KJ, Curran JE, **Arya R**, Almasy L, Comuzzie AG, Jenkinson CP, Lehman DM, DeFronzo RA, Blangero J, Hale DE, Duggirala R, Lynch JL. Increased prevalence of elevated hepatic ALT enzyme activity in obesity and related condition and its genetic determinants in Mexican American children. 2009. Diabetes; vol. 58, S1, p. A455.
36. Fowler SP, Diego VP, Puppala S, Schneider J, Farook VS, Lynch JL, Hunt KJ, Curran JE, **Arya R**, Lehman DM, Almasy L, Comuzzie AG, Jenkinson CP, Stern MP, DeFronzo RA, Blangero J, Duggirala R. Hale DE. Interaction between genotype and sedentary lifestyle influences obesity and insulin resistance measures in Mexican American children. 2009. Diabetes; vol. 58, S1. p. A308.
37. Puppala S, Schneider J, Fowler S, Farook V, Cersosimo E, Lynch JL, **Arya R**, Almasy L, Comuzzie AG, Jenkinson CP, Lehman DM, DeFronzo R, Blangero J, Duggirala R, Hale DE. Increased occurrence of childhood obesity and its correlates and their genetic architecture in Mexican American children 2009. Diabetes; vol. 58, S1, p. A1770.
38. Mummidi S., Hernandez-Ruiz J, Farook V, Reddivari L, Diaz-Badillo A, Resendez R, Akhtar F, Curran JE, Jenkinson CP, **Arya R**, Lehman D, DeFronzo R, Hale, DE, Blangero J, Vanamala J, Lopez-Alvarenga JC, Duggirala R. "Serum carotenoids and Pediatric Adiposity Index Predict Insulin Sensitivity in Mexican American Children." Poster Session III, FSO-036. Research Symposium. UTRGV. Edinburg. Sep 15, 2018.
39. Feroz Akhtar, Joselin Hernandez Ruiz, Ya-Guang Liu, Roy G. Resendez, Denis Feliers, Jiyun Lim, Alvaro Diaz-Badillo, **Rector Arya**, Christopher Jenkinson, Juan Lopez Alvarenga, Ravindranath Duggirala, Srinivas Mummidi. "Role of RNA binding protein HuR in CCL2 allelic expression imbalance." Poster Session III, FSO-028. Research Symposium. UTRGV. Edinburg. Sep 15, 2018.

40. Joselin Hernandez Ruiz, Feroz Akhtar, Roy G. Resendez, Denis Feliers, Jiyun Lim, Alvaro Diaz-Badillo, **Rector Arya**, Christopher Jenkinson, Juan Lopez Alvarenga, Ravindranath Duggirala, Srinivas Mummidi. "The disease modifying IL13 haplotype is associated with allelic expression imbalance." Oral Session 4, P001. Research Symposium. UTRGV. Edinburg. Sep 15, 2018.
41. Alvaro Diaz-Badillo, Juan Carlos Lopez-Alvarenga, Srinivas Mummidi, **Rector Arya**, Sharon P. Fowler, Christopher P. Jenkinson, Roy G. Resendez, Joselin Hernandez-Ruiz, Feroz Akhtar, Thomas D. Dyer, Joanne E. Curran, Donna M. Lehman, Jane L. Lynch, Ralph A. DeFronzo, Daniel E. Hale, Braxton D. Mitchell, John Blangero, Ravindranath Duggirala. "Genetics of bone mass related phenotypes and their correlation with cardiometabolic traits in Mexican American children." Poster Session III, FSO-016. Research Symposium. UTRGV. Edinburg. Sep 15, 2018.
42. Juan Carlos Lopez-Alvarenga, Alvaro Diaz-Badillo, Armando Totomoch-Serra, **Rector Arya**, Srinivas Mummidi, Joselin Hernandez-Ruiz, Feroz Akhtar, Roy G Resendez, Christopher P Jenkinson, Joanne Curran, Thomas D Dyer, Donna M Lehman, John Blangero, Ravindranath Duggirala. "Sarcopenic obesity and its paradoxical association with cardiometabolic risk factors in Mexican Americans." Oral Session 5, FSO-017. Research Symposium, UTRGV. Sep 15, 2018.

PRESENTATIONS: Regional, National, and International Scientific Conferences

- 2019 Juan C Lopez-Alvarenga, Octelina Castillo-Ruiz, Alvaro Diaz-Badillo, Esperanza Garcia-Oropeza, Joselin Hernandez-Ruiz, Leticia Leal, Claudia Munguia, Edna Nava-Gonzalez, Adriana Leticia Perales-Torres, Monserrat Perez-Navarro, Laura Ramirez-Quintanilla, Carlos Ramirez-Pfeifer, Marisol Rosas-Diaz, Elizabeth Tejero-Barrera, **Rector Arya**, Srinivas Mummidi, Ravindranath Duggirala. *Relative Contributions of Obesity and Alcohol to Liver Abnormalities in Young University Students*. To be presented at The Obesity Society's (TOS) 37th annual meeting to be held at ObesityWeek, November 3-7, 2019 in Las Vegas, NV.
- 2019 Alvaro Diaz-Badillo, Juan C Lopez-Alvarenga, Armando Totomoch, Joselin Hernandez-Ruiz, Feroz Akhtar, Srinivas Mummidi, **Rector Arya**, Christopher P. Jenkinson, Anthony G. Comuzzie, Joanne Curran, Thomas D. Dyer, Donna M. Lehman, John Blangero, Ravindranath Duggirala. *Sarcopenic Obesity and Metabolic Risk in Mexican Americans: Paradoxical Role of Adiponectin*. To be presented at The Obesity Society's (TOS) 37th annual meeting to be held at ObesityWeek, November 3-7, 2019 in Las Vegas, NV.
- 2019 Joselin Hernandez-Ruiz, Juan C Lopez-Alvarenga, Maria Jose Garcés, Nayeli Garibay-Nieto, Gloria-Quiepo, **Rector Arya**, Srinivas Mummidi, Ravindranath Duggirala. *Different Obesity-Related Liver Function Profiles Exhibited by Mexican - American and Mexican Children*. To be presented at The Obesity Society's (TOS) 37th annual meeting to be held at ObesityWeek, November 3-7, 2019 in Las Vegas, NV.

- 09/2019 **Rector Arya**, Vincent P. Diego, Srinivas Mummidi, Sobha Puppala, Roy Resendez, Sharon P. Fowler, Donna M Lehman, Jane L. Lynch, Christopher P. Jenkinson, Juan Carlos Lopez Alvarenga, Ralph A. DeFronzo, John Blangero, Ravindranath Duggirala. *Biomarkers of nonalcoholic fatty liver disease (NAFLD) exhibit genotype-by-environment interaction effects on metabolic abnormalities in Mexican American children*. Research Symposium. School of Medicine, UTRGV. Edinburg/McAllen, TX. Sept 13 - 14, 2019 (submitted).
- 09/2019 Srinivas Mummidi*, Vidya S. Farook*, **Rector Arya**, Juan Carlos Lopez-Alvarenga, Marcio Almeida, Sobha Puppala, Feroz Akhtar, Sharon P. Fowler, Roy G. Resendez, Satish Kumar, Joanne E. Curran, Donna M. Lehman, Christopher P. Jenkinson, Gerald D. Dodd; Andrew K. Diehl**, John Blangero, Ravindranath Duggirala; *equal contribution; **deceased. *Identification of Potential Functional Genetic Variants Under Linkage Peaks Associated with Gallbladder Disease in Mexican Americans*. Research Symposium. School of Medicine, UTRGV. Edinburg/McAllen, TX. Sept 13 - 14, 2019 (submitted).
- 09/2019 Juan Carlos Lopez Alvarenga, **Rector Arya**, Srinivas Mummidi, Roy Resendez, Sharon P. Fowler, Feroz Akhtar, Alvaro Diaz-Badillo, Donna M Lehman, Jane L. Lynch, Christopher P. Jenkinson, Ralph A. DeFronzo, John Blangero, Ravindranath Duggirala. *Obesity and insulin resistance predict liver dysfunction in Mexican American children*. Research Symposium. School of Medicine, UTRGV. Edinburg/McAllen, TX. Sept 13 - 14, 2019 (submitted).
- 09/2019 Feroz Akhtar, Joselin Hernandez Ruiz, Ya-Guang Liu, Roy G. Resendez Denis Feliars, Alvaro Diaz-Badillo, **Rector Arya**, Christopher Jenkinson, Juan Lopez Alvarenga, Ravindranath Duggirala, Srinivas Mummidi. *RNA binding protein HuR regulates CCL2 allelic expression imbalance*. Research Symposium. School of Medicine, UTRGV. Edinburg/McAllen, TX. Sept 13 - 14, 2019 (submitted).
- 06/2019 Juan C Lopez-Alvarenga, **Rector Arya**, Geetha Chittor, Solomon Franklin Paul, Sobha R Puppala, Vidya S Farook, Sharon P Fowler, Roy G Resendez, Alvaro Diaz-Badillo, Donna Lehman, Srinivas Mummidi, Christopher P. Jenkinson, Jane L Lynch, Ralph A DeFronzo, John Blangero, Daniele E Hale, Ravindranath Duggirala. "Acanthosis Nigricans as a Composite Marker of Cardiometabolic Risk and Its Complex Association with Obesity and Insulin Resistance in Mexican American Children." Presented at the ADA 79th Scientific Session. San Francisco, June 7-11, 2019.
- 06/2019 Vettriselvi Venkatesan, Juan c. Lopez Alvarenga, **Rector Arya**, Teena Koshy, Umarani Ravichandran, Surendra Sharma, Shailesh Lodha, Amaresh Reddy Ponnala, Krishna Kumar. Sharma, Mahaboob Vali. Shaik, Roy G. Resendez, Deepika Ramu, Priyanka Venugopal, Parthasarathy R., Noelta S., Juliet A. Ezeilo, Cynthia A. Bejar, Srinivas Mummidi, Chidambaram Natesan, John Blangero, Krishna M. Medicherla, Sadagopan Thanikachalam, Thyagarajan Sadras Panchatcharam, Dileep Kumar K., Rajeev Gupta, Dharambir K. Sanghera, Ravindranath Duggirala, Solomon Franklin Paul. "Burden of Type 2 Diabetes and Its Genetic Determinants in Indian Populations: Findings from the INDIGENIUS Consortium." Presented at the ADA 79th Scientific Session. San Francisco, June 7-11, 2019.

- 06/2019 Teena Koshy, **Rector Arya**, Juan c. Lopez Alvarenga, Vettriselvi Venkatesan, Umarani Ravichandran, Surendra Sharma, Shailesh Lodha, Amaresh Reddy Ponnala, Krishna Kumar. Sharma, Mahaboob Vali. Shaik, Roy G. Resendez, Deepika Ramu, Priyanka Venugopal, Parthasarathy R, Noelta S, Juliet A. Ezeilo, Cynthia A. Bejar, Srinivas Mummidi, Chidambaram Natesan, John Blangero, Krishna M. Medicherla, Sadagopan Thanikachalam, Thyagarajan Sadras Panchatcharam, Dileep Kumar K., Rajeev Gupta, Ravindranath Duggirala, Dharambir K. Sanghera, Solomon Franklin Paul. "Effect of Educational Status on Fasting Glucose and HbA1c Concentrations Independent of Income and Population Differences in Indian Populations." Presented at the ADA 79th Scientific Session. San Francisco, June 7-11, 2019.
- 06/20019 Srinivas Mummidi, Joselin Hernandez-Ruiz, Vidya Farook, Lavanya Reddivari, Alvaro Diaz-Badillo, Sharon P. Fowler, Roy G. Resendez, Feroz Akhtar, Donna M. Lehman, Christopher P. Jenkinson, **Rector Arya**, Jane L. Lynch, Ralph A. DeFronzo, Daniel E. Hale, John Blangero, Juan Carlos Lopez-Alvarenga, Ravindranath Duggirala, Jairam K. Vanamala. "Prediction of Insulin Sensitivity Using Serum Carotenoid Concentrations and Pediatric Metabolic Index in Mexican American Children." Presented at the ADA 79th Scientific Session. San Francisco, June 7-11, 2019.
- 08/2017 **Arya R**, Puppala S, Lopez-Alvarenga JC, Mummidi S, Diaz-Badillo A, Fowler SP, Resendez RG, Curran JE, Lehman DM, Jenkinson CP, Bradshaw BS; DeFronzo RA, Blangero J, Duggirala R. *Evidence for common genetic loci for birth weight and adulthood cardio-metabolic traits in Mexican Americans*, Presented at The Research Symposium, School of Medicine, UTRGV, Edinburg, Texas, August 12, 2017.
- 10/2016 **Arya R**, Puppala S, Fowler S, Mummidi S, Farook VS, Dyer TD, Almeida M, Peralta J, Resendez RG, Lopez-Alvarenga JC, Jenkinson CP, Comuzzie AG, Goring HHH, Mahaney M, Almasy L, Lehman DM, Curran JE, Duggirala R, Blangero J. *Genome-wide association analysis localizes a novel locus for abdominal obesity in Mexican Americans*. Presented at the Obesity Society meeting at ObesityWeek in New Orleans, October 31- November 4, 2016.
- 10/2015 **Arya R**, del Rincon I, Farook VS, Restrepo JF, Winnier DA, Fourcaudot MJ, Battafarano DF, Kumar S, de Almeida MAA, Curran JE, Jenkinson CP, Blangero J, Duggirala R, and Escalante. *A Cumulative Association of Genetic Variants with Rheumatoid Joint Damage Progression in Mexican Americans and European Americans*. This abstract has been submitted for American College of Rheumatology Meeting, held in September 2015 at San Diego.
- 11/2014 **Arya R**, del Rincon I, Farook VS, Restrepo JF, Winnier DA, Battafarano DF, Kumar S, De Almeida MAA, Curran JE, Jenkinson C, Blangero J, Duggirala R, Escalante A. *Genetic Variants Influencing Joint Damage in Mexican Americans and European Americans with Rheumatoid Arthritis, ACR/ARHP* (Rheumatology) Annual Meetings 2014, Genetics, Genomics, and Proteomics II, American College of Rheumatology (ACR/ARHP), Boston, MA, USA
- 09/2012 **Arya R**, Fowler SP, Puppala S, Farook VS, Chittoor G, Resendez RG, Mummidi S, Vanamala J, Almasy L, Curran JE, Comuzzie AG, Lehman DM, Jenkinson,

- Lynch JL, DeFronzo RA, Blangero J, Hale DE, Duggirala R, and Diego VP. *Gene-by-Physical Activity Interaction Effects on Cardiometabolic Risk Factors in Mexican American Children*, Obesity 2012 30th Annual Scientific Meeting, Physical Activity Epidemiology, The Obesity Society, San Antonio, TX
- 06/2012 **Arya R**, Puppala S, Farook VS, Fowler SP, Schneider J, Curran JE, Almasy L, Comuzzie AG, Jenkinson CP, Lynch JL, Lehman DM, Ralph A. DeFronzo, Blangero J, Hale DE, Duggirala R. *The Factor Structure of the Metabolic Syndrome and Its Genetic Basis in Mexican American Children*, American Diabetes Association 72nd Scientific Sessions, 20-C Pediatrics -Type 2 Diabetes, American Diabetes Association, Philadelphia, PA
- 10/2009 **Arya R**, Puppala S, Farook VS, Fowler SP, Schneider J, Curran JE, Almasy L, Comuzzie AG, Jenkinson CP, Lynch JL, Lehman DM, Ralph A. DeFronzo, Blangero J, Hale DE, Duggirala R. *Genetic Influences on Childhood Obesity, Insulin Resistance, and Metabolic Syndrome Phenotypes in Mexican American Children*, Obesity Society's 27th Annual Meeting, Population Studies, The Obesity Society, Washington, DC
- 09/2008 **Arya R**, Hare E., del Rincon I, Jenkinson CP, Duggirala R. *Effects of Covariates and Interactions on Genome-wide Association Analysis (GWAA) of Rheumatoid Arthritis*, The Genetic Analysis Workshop 16 Meeting, Genetic-Environmental Interactions Group, The Genetic Analysis Workshop, St. Louis, MO.
- 06/2007 **Arya R**, Puppala S, Coletta DK, Schneider J, Hu SL, Farook VS, Sathyanarayana P, Dyer TD, Blangero J, Duggirala R. DeFronzo RA, Jenkinson CP. *Search for susceptibility genes influencing Pathophysiological measures of type 2 diabetes: The Veterans Administration Genetic Epidemiology Study (VAGES)*. American Diabetes Association 67th Annual Meeting, Genetics of Type 2 Diabetes, American Diabetes Association, Chicago, IL
- 06/2006 **Arya R**, Puppala S, Farook VS, Schneider J, Fowler S, Arar N, Almasy L, Blangero J, Abboud HE, Stern MP, Duggirala R. *Genetic factors commonly influence chronic kidney disease and the metabolic syndrome phenotypes in Mexican Americans*, the American Diabetes Association 66th Annual Meeting, Diabetes Complications, American Diabetes Association, Washington, DC
- 06/2005 **Arya R**, Fowler S, Schneider J, Puppala S, Farook V, Granato R, Jenkinson CP, Almasy L, Comuzzie AG, Bradshaw B, DeFronzo RA, MacCluer J, Stern MP, Blangero J, Duggirala R. *Complex Genetic Architecture of Birth Weight in Mexican Americans revealed by Oligogenic Linkage Analysis*, the American Diabetes Association Annual meeting, 2005, American Diabetes Association, Salt Lake City, UT
- 06/2005 **Arya R**, Fowler S, Schneider J, Puppala S, Farook V, Granato R, Jenkinson CP, Almasy L, Comuzzie AG, Bradshaw B, DeFronzo RA, MacCluer J, Stern MP, Blangero J, Duggirala R. *Evidence for a Major Gene for Birth Weight in Mexican Americans*. The American Diabetes Association Annual meeting, the American Diabetes Association, San Diego, CA
- 11/2004 **Arya R**, Schneider J, Puppala S, Fowler S, Dyer T, Jenkinson CP, Almasy L,

- Blangero J, Stern MP, Duggirala R. *Evidence for a Major Gene for Abdominal Obesity in Mexican Americans*, The North American Association for Study of Obesity (The NAASO), Genetics of Obesity, The North American Association for Study of Obesity, Las Vegas, NE
- 10/2004 **Arya R**, Schneider J, Puppala S, Dyer T, Fowler S, Almasy L, Blangero J, Stern MP, Duggirala R. *A Genome-wide Scan for Quantitative Trait Loci linked to Waist Circumference in Mexican Americans*, 54th Annual Meeting of The American Society of Human Genetics, The American Society of Human Genetics, Toronto, Canada.
- 09/2004 **Arya R**, Dyer T, Warren DM, Jenkinson CP, Duggirala R, Almasy L. *Effect of Genotype-by-Alcoholism Interaction on Linkage Analysis of an Alcoholism-Related Quantitative Phenotype*, The Genetic Analysis Workshop (GAW) 14, The University of Texas Health Science Center, Noordwijkerhout, Netherlands.
- 06/2004 **Arya R**, Bradshaw B, Jenkinson CJ, Schneider J, Fowler S, Puppala S, Almasy L, Comuzzie AG, MacCluer J, Defronzo RA, Blangero J, Stern MP, Duggirala R. *Genetic Correlations between Birth Weight and the Insulin Resistance Syndrome-related Phenotypes in Mexican Americans*, The American Diabetes Association (ADA) 64th Scientific Sessions, Genetics of Type 2 Diabetes-Related Phenotypes, The American Diabetes Association (ADA), Orlando, FL
- 10/2003 **Arya R**, Williams K, Bhandari K, Lehman D, Fowler S, Almasy L, Blangero J, Hanna A, Stern MP, Duggirala R. *Albuminuria as a Component of Metabolic Syndrome in Mexican Americans*, North American Association for the Study of Obesity (NAASO). Annual Scientific Meeting, North American Association for the Study of Obesity (NAASO), Ft. Lauderdale, FL
- 06/2003 **Arya R**, Fowler S, Schneider J, Almasy L, O'Connell P, Blangero J, Stern MP, Duggirala R. *Evidence of a novel major locus for adiponectin levels on chromosome 3q in Mexican Americans*, 63rd American Diabetes Association (ADA) Scientific Sessions, American Diabetes Association (ADA), New Orleans, LA
- 11/2002 **Arya R**, Lehman D, Kelly H, Schneider J, Almasy L, Blangero J, Stern MP, Duggirala R. *Evidence for bivariate linkage of obesity and HDL-C levels in the Framingham Heart Study*, Genetic Analysis Workshop 13, New Orleans, LA
- 06/2002 **Arya R**, Dodd GD, Fowler S, Lehman DM, Diehl AK, Blangero J, Stern MP, Duggirala R. *Genetics of the clinical triad of type 2 diabetes, obesity, and gallbladder disease in Mexican Americans*, 62nd Scientific Sessions, American Diabetes Association, San Francisco, CA
- 10/2001 **Arya R**, Blangero J, Almasy L, O'Connell P, Stern MP, Duggirala RA. *Major locus for Body Mass Index (BMI) on chromosome 4p in Mexican Americans*, North American Association for the Study of Obesity Annual Meeting, North American Association for the Study of Obesity, Quebec City, Canada
- 06/2001 **Arya R**, Bhandari K, Kawalit, I, Fowler S, Williams K, Pergola PE, Plaetke R, Almasy L, Blangero J, Abboud HE, Duggirala R. *Bivariate genetic analysis of*

albuminuria and obesity in Mexican Americans, 61st Scientific Sessions, American Diabetes Association, Philadelphia, PA

- 10/2000 **Arya R**, Duggirala R, Williams JT, Almasy L, Blangero J. *Power to localize the major gene for disease liability is increased after accounting for the effects of related quantitative phenotypes*, Genetic Analysis Workshop 12, Genetic Analysis Workshop 12, San Antonio, TX
- 06/2000 **Arya R**, Williams K, O'Connell P, Blangero J, Stern MP, and Duggirala R. *Factors of insulin resistance syndrome (IRS)-related phenotypes are linked to genetic locations on chromosomes 6 and 7 in non-diabetic Mexican Americans*, The American Diabetes Association 60th Scientific Sessions, Genetics of Type 2 Diabetes, American Diabetes Association, San Antonio, TX
- 10/1999 **Arya R**, Duggirala R, Almasy L, Stern MP, O'Connell P, and Blangero J. *Strong evidence for linkage of high-density lipoprotein cholesterol (HDL-C) concentrations to a genetic location on chromosome 9p in Mexican Americans*, 49th Annual Meeting Plenary Session, American Society of Human Genetics, San Francisco, CA

RESEARCH GRANTS

Federal Grants: Active

R01 1 R01 MD014995-01 (MPIs: Arya [contact], Mummidi, Goring, Canas)

NIH/NIDDK/NIMHD/NICHD

Title: Effects of Mixed Carotenoid Supplementation (MCS) on Gut Microbiome and Dysmetabolic Obesity (DO) in Mexican American Youth and Young Adults: A Randomized Controlled Trial.

10/01/19 – 09/30/24

Total costs: \$3,678,607

Indirect Costs: 1,188,941

Direct costs: \$2,489,666

Role: Principal Investigator (25%)

Status: To be resubmitted

Grant Detail: The purpose of this intervention study is to determine the effects of MCS on DO in youth and young adults and examine concomitant changes in the host metabolism, gut microbiome, metabolome, and gene expression in an integrative multi-omic approach.

R01 DK117351-01A1 (PIs: Arya [Contact], Clarke, Alkhouri, Duggirala)

Title: OMICs of Nonalcoholic Fatty Liver Disease and Its Severity in Mexican Americans

NIH/NIDDK

4/1/20 - 3/30/25

Direct Costs: 2,482,071

Indirect Costs: 1,154,484

Total Costs: 3,636,555

Role: Principal Investigator (contact)

Status: Under Review

Grant Detail: The purpose of this study is to identify molecular mechanisms contributing to NAFLD, measured using high resolution magnetic resonance spectroscopy/diffusion-weighted

imaging in 1,000 participants of the San Antonio Mexican American (MA) Family Study [SAMAFS] (Aim 1). We will integrate information from genetics/genomics including whole genome sequence (WGS) data, already available, and genome-wide transcription profiles to be generated using PBMCs.

R01 AI139607 (PIs: Duggirala [Contact], Restrepo, Zenteno-Cuevas)

NIH/NIAID

Title: Genetic Epidemiology of Tuberculosis in Mexican Populations

10/01/19 – 09/30/24

Total costs: \$5,307,555

Direct costs: \$3,765,642

Role: Co-Investigator (30%)

Status: To be resubmitted as a new grant

1R01MD012564-01 (Blangero/Clarke [MPIs])

Source: NIH/NIMHD

Title: "Identification of the exposome in fatty liver disease in Mexican American Families using Genetic Correction"

Funding Period: 04/27/2018 - 11/30/2022

Role: Co-Investigator (10%)

Percent Effort:

Status: Active

Grant detail: The major goal is to identify novel environmentally determined risk factors influencing fatty liver disease using a multiomic approach in tandem with correction for genetic factors.

Project #: **R21 DK105913***

Funding Agency: NIH/NIDDK

Title: Genetics of Type 2 Diabetes in Indian Populations: US-India Collaboration Project

Status: Under no cost extension till 3/31/2020.

Period: 01/04/2016 – 03/31/2018

Role: Co-Investigator; Effort: 15%

Total Costs: \$414,960

Grant Detail: The major objective of this study is to establish a Collaborative Research Partnership (CRP) between two US institutions and three Indian institutions to evaluate genetic determinants of type 2 diabetes (T2D) among endogamous ethnic groups (EEGs) using pedigree-based data sets from North and South Indian states. (* under no cost extension)

Project #: **2 U01 DK085524-06** (contact-PI: Duggirala)

Funding Agency: NIH/NIDDK

Title: Discovery of Functional Variants in Type 2 Diabetes Genes in Mexican Americans

Period: 04/01/2015 – 03/31/2020

Role: Co-Investigator Effort: 20%

Total Costs: \$3,035,360

Status: Active

Grant Detail: The major goals of this study are to expand the whole genome sequence (WGS; N = ~1,000) data by adding an additional already (or will be) available 1,000 whole genomes from San Antonio Mexican American Family Studies (SAMAFSs) to validate the existing information on rare variants influencing T2D and its related quantitative traits and to find any additional rare T2D risk variants; to replicate selected rare association findings in other cohorts;

and, to perform functional assessment of non-coding variants influencing T2D risk aided by recall for deep phenotyping and functional studies.

Completed Grants:

Project #: **2R01HD037151-06A** (PI: Escalante)

Funding Agency: NIH/NICHD

Title: The Disablement Process in Rheumatoid Arthritis

Status: Complete

Period: 08/2008 - 07/2012

Role: Co-Investigator Effort: 5%

Total Costs: \$3,756,111

Grant Detail: Inflammation damages the joints of rheumatoid arthritis (RA) patients. They experience pain, loss of motion, physical disability and a shortened lifespan. Despite estimates suggesting Mexican Americans (MA) may be more susceptible to RA compared to other U.S. ethnic groups, little is known about the clinical expression or outcome in RA in MA. Our goals are to identify optimal points for intervention to retard disablement in RA, and to understand the mechanisms of ethnic disparities.

Project #: **1R01HL085742** (PI: del Rincon)

Funding Agency: NIH/NHLBI

Title: Effect of Chronic Inflammation on Atherosclerosis Outcomes in Rheumatoid Arthritis

Status: Complete

Period: 03/2008 - 02/2016

Role: Co-Investigator Effort: 5%

Total Costs: \$3,694,701

Grant Detail: The major goal of this research is to examine candidate genes for association with atherosclerosis and cardiovascular outcomes in rheumatoid arthritis

Project #: **1 R01 HD049051**

Funding Agency: NIH

Title: The metabolic syndrome in Mexican American children

Status: Complete

Period: 03/2005 - 02/2010

Role: Co-Investigator Effort: 5%

Total Costs: \$2,372,629

The purpose of this project is to establish the precursors of the MS in Mexican American children. Given that family history of type 2 diabetes is an important factor associated with the MS risk, plans to establish the precursors of the MS in children could be greatly advance by examining the children of previously established adult family-based cohorts such as ours that are enriched with prediabetic and diabetic individuals.

Project #: **R01AG022-435**

Funding Agency: NIH

Title: Diabetesity gene discovery at chromosome 6q23

Status: Complete

Period: 04/2004 - 03/2009

Role: Co-Investigator Effort: 10%

Total Costs: \$1,810,311

Grant Detail: The purpose of this project is to investigate the genetic basis of type 2 diabetes and obesity in Mexican Americans, focusing on locating and identifying a putative diabetesity

gene at chromosome 6q23.

Project #: GCRC-IC-019

Funding Agency: General Clinical Research Center (GCRC-VAH)

Title: Genetics of visceral adiposity in Mexican Americans

Status: Complete

Period: 11/2003 - 10/2004

Role: Principal Investigator Effort: 15%

Total Costs: \$30,000

Grant Detail: The purpose of this project is to conduct preliminary study by implementing the MRI protocol and to generate preliminary results for the major NIH grant application titled: "Genetics of visceral adiposity (MRI) in Mexican Americans."

Project #: R01HD41111

Funding Agency: NIH/NICHHD

Title: Genetics of birth weight in Mexican Americans

Status: Complete

Period: 09/2001 - 06/2006

Role: Co-Investigator Effort: 50%

Total Costs: \$1,522,566

Grant Detail: The goal of this project is to conduct a multidisciplinary study utilizing birth weight and its related adult phenotypic data, molecular genetic data, and statistical genetic techniques to examine the genetic determinants of birth weight and its associated adult disease phenotypes in Mexican American families.

Project #: R01DK47482

Funding Agency: NIH

Title: NIDDM susceptibility genes in Mexican Americans

Status: Complete

Period: 09/2000 - 08/2005

Role: Co-Investigator Effort: 10%

Total Costs: \$2,152,590

Grant Detail: The major goal of this project is to fine map a region on chromosome 10q linked to type 2 diabetes using single nucleotide polymorphisms in order to discover gene variants responsible for the linkage signal.

Project #: U01DK58026

Funding Agency: NIH

Title: Consortium Linkage Studies of Type 2 Diabetes

Status: Complete

Period: 08/1999 - 07/2005

Role: Co-Investigator Effort: 10

Total Costs: \$327,228

Grant Detail: The goal of this project is to pool data from 15 genetic studies from 5 different countries in order to improve localization of susceptibility genes for type 2 diabetes.

Project #: R01DK53889

Funding Agency: NIH/NIDDK

Title: Genetics of gallbladder disease in Mexican Americans

Status: Complete

Period: 10/1998 - 09/2004

Role: Co-Investigator Effort: 50%

Total Costs: \$848,910

Grant Detail: The purpose of this project is to examine the genetic basis of gallbladder disease in Mexican Americans.

PRIVATE Grants:

Project #: **AHA/NATL 0730468N (PI: Arya)**

Funding Agency: American Heart Association

Title: American Heart Association Scientific Development Grant-National

Status: Complete

Period: 01/2007 - 12/2010

Role: Principal Investigator Effort: 26%

Total Costs: \$260,000.00

Grant Detail: The purpose of this study is to identify pleiotropic genes influencing the association between the CKD phenotypes (Albuminuria and GFR) and MS phenotypes in Mexican Americans using multivariate linkage and association analyses.

STATE Grants

Project #: **123047-08-B (PI: Arya)**

Funding Agency: Borderplex Obesity Diabetes Council

Title: Genetic determinants of Obesity/Abdominal Obesity (AO) and Related Phenotypes in the Rio Grande Valley (RGV) Population

Status: Complete

Period: 01/2009 - 07/2010

Role: Principal Investigator Effort: 5%

Total Costs: \$50,000

Grant Detail: The purpose of this study was to recruit unrelated Mexican American subjects living in Rio Grande Valley area to obtain data on obesity/AO related phenotypes using the most reliable noninvasive and sophisticated MRI technique, and examine the specific genetic determinants of AO in Mexican Americans.

SERVICE TO THE INSTITUTION:

Dates	Description	Role
04/2016-present	Institutional Review Board, UTRGV	Member
09/2012-09/2015	Institutional Review Board, UTHSCSA	Alternate Member
05/2014-05/2014	School Pediatrics Research Day 2014, Poster Judge	Judge
	Judged Medical Student/Residents/Fellows Research Posters in an Annual Competition to select the best poster presentations	
04/2014-04/2014	School Passport 2014, Poster Judge	Judge
	Judged Medical Student/Residents/Fellows research posters in an annual competition to select the best poster presentations	

11/2012-11/2012 School Medical Student Research Day Poster Judge Judge

Judged medical student research posters in an annual competition to select the best poster presentations

SERVICE TO THE PROFESSION:

05/2011-Present **Abstract Reviewer for Professional Societies**
Served as an abstract reviewer for The Obesity Society meetings

10/2010-10/2015 **Grant Reviewer for Granting Agencies (National level)**

Reviewed grants for Commonwealth Pennsylvania Department of Health Formula Grant Final Performance Reviews, and

Pennsylvania Department of Health Translational Genomics Peer Review

09/2016 Reviewer for Shota Rustaveli National Science Foundation Proposals

08/2016 Reviewer for The Collaborative Research Project (compatriots call) Award

01/2017 - Reviewer for the Ralph E. Powe Junior Faculty Award

09/2004-Present **Manuscript Reviewer for Scientific Journals**

Reviewed Manuscripts for Journals: Diabetes, Diabetes Care, Diabetologia, Obesity Research/Obesity, American Journal of Human Genetics, Human Heredity, Human Biology, Human Genetics, Genetic Epidemiology, Annals of Human Biology, BMC Genetics, BMC Medical Genetics, International Journal of Tropical Disease and Health, Human Molecular Genetics, International Journal of Obesity, and PLoS One, Scientific Reports, World Journal of Pediatrics.

01/1995-01/2009 **Participation in Professional Workshops**

Participant, Genetic Analysis Workshops (GAW) 11, 12, 13, 14, and 16 from 1998-2009

Participant, American Association of Anthropological Genetics 2nd workshop in Anthropological Genetics (Topic: Statistical Genetic Methods in Anthropological Research), San Antonio, Texas, October 14-16, 1995.

Served on Scientific Committees:

Dates	Committee
04/2018–04/2020	Member, The Obesity Society – Scientific Research Committee
04/2015-03/2019	Member, Amp-T2D consortium phenotype harmonization working group
03/2010-03/2011	Member, Diversity Section of the Obesity Society, The Obesity Society
08/2008-01/2012	Member, Diversity Committee of the Obesity Society, The Obesity Society
09/1999-08/2004	Member, Analysis and Mapping Committee, Consortium Linkage Studies of Type 2 Diabetes
09/2010-2012	Served on Diversity Section, The Obesity Society (TOS)

Educational Activities including Mentorship and Training:

Trained and/or mentored the following students, postdocs and junior faculty in genetic epidemiological studies focusing on the statistical genetic data analysis using a variety of software and statistical packages individually and collectively together with other colleagues from STDOI.

09/2007- 08/2010	Participated in an Innovative Research and Development Training Program (RDTPG) from 2007 to 2010. The purpose of this program was to develop a group of researchers (MD and PhD), at the Edinburg-Regional Academic Health Center (E-RAHC) of UTHSCSA located in Edinburg, Texas, with special expertise in translational genetic research in the U.S. Latino population.
03/2008 - 08/2010	Served on Ph.D Thesis committee of Amitabh Sharma as an External Examiner for the evaluation of the Ph.D. thesis titled “In silico and Genetic Studies of Type 2 Diabetes Mellitus, with Special Emphasis on Protein-Protein Interactions” submitted to University of Pune, Ganeshkhind, Pune, India for the award of PhD degree in Biotechnology, 2009.
05/2009 - 06/2010	Mentored a graduate student Dr. Rohita Inturi on her research project, while serving on her supervising committee as an expert UTHSCSA faculty. Also, served as an expert UTHSCSA faculty member on Dr. Rohitha Inturi's Supervising Committee. My role was to mentor Dr. Inturi on her research project titled "Genetic and Environmental influences on growth, motor, cognitive behavioral and language development of premature infants”.

1. Undergraduate Students Mentored:

Naba Asif, a pre-med student at UTRGV, 2016 - 2017

Umer Jalil, a pre-med student at UTRGV, 2016

Sunil Athyala, a pre-med student at UTRGV, 2016-2017

Continued to mentor SOM and UTRGV students: Sunil Athyala - A pre-med student at UTRGV, and Melissa Ku – Nursing student at UTRGV/(currently at UTHSA), 2018-2019

2. Graduate Students Mentored and Trained:

Mentored Mr. Armando Totomoch-Serra, MD, along with other colleagues at STDOI, introduced to statistical genetic analyses including genome-wide association analysis using PLINK. He is a visiting Ph.D. student from CINVESTAV (Center for Research and Advanced Studies of the National Polytechnic Institute, which is a Mexican non-governmental scientific research institution), Mexico (Oct- Dec 2016).

Trained Alden, Sarah Dale, Graduate Student
Department of Anthropology, University of Kansas, Lawrence, KS, 2016
Swathi Balaji, MBBS, Graduate Research Assistant,
School of Public Health, Brownsville, UTHealth, Houston, TX, 2018

3. Post-Doctoral Fellows and Research Associates Mentored and Trained:

Alvaro Diaz-Badillo, Ph.D.
Department of Human Genetics/STDOI, Edinburg, TX, 2016-2018

I have mentored and guided Dr. Diaz-Badillo on two of his projects (i.e., SAFARI and SAMAFS) in terms of different genetic analyses using SOLAR and interpretation of results and in the preparation of poster presentations for the Research symposium 2018:

1) “Genetics of bone mass related phenotypes and their correlation with cardiometabolic traits in Mexican American children.” Presented at the Research Symposium. UTRGV. Edinburg. Sep 15, 2018.

2) “Sarcopenic obesity and its paradoxical association with cardiometabolic risk factors in Mexican Americans.” Presented at the Research Symposium, UTRGV. Sep 15, 2018.

The related two manuscripts are being prepared for publication purpose.

Feroz Akhtar, Ph.D. Research Associate II
Department of Human Genetics/STDOI, Edinburg, TX, 2017 to present

I have been mentoring Dr. Akhtar ever since he started working on our tooth pilot study in terms of data analysis, interpretation of results, and manuscript preparation titled “Early Life Exposure to Environmental Pollutants as Assessed in Deciduous Teeth and Cardio-metabolic Risk in Mexican American Children”. This manuscript has been prepared and getting ready for submission.

4. Junior Faculty and Staff Mentored and Trained:

Interacting with Indian colleagues regarding genetic data analyses as a co-investigator on the Indo-US collaborative study, 2016 – Present.

Mihwa Kim, Ph.D. Assistant Professor, Department of Molecular Science

UT Health RGV, Biomedical Research, UTRGV, McAllen, TX, 2019

I just started mentoring Dr. Kim, on a couple of projects relating to Identification of variants influencing cervical cancer in Hispanics. Following our recent meeting, I will be guiding her to conduct association analysis using SNP data from candidate genes implicated in cervical cancer causation and progression as part of a grant application as a Co-Investigator.

Other Academic/Educational Activities:

5. Coordinator, Complex Disease Journal Club (CDJC) Presentations:

As one of the coordinators of the CDJC since its inception in 2016, I have been actively involved in the CDJC activities. Interacting with Graduate students, postdocs, and research faculty from various departments, ~20-30 students and faculty attend these seminars and have opportunities to present their research as well. I had opportunities to present my own research as well as journal articles in multiple times.

6. Professional Training and Mentoring Experience:

- a) Attended Institutional Review Board (IRB) Training Retreat and involved in training sessions for new IRB members.
- b) Participated in the Equity and Diversity Advocate (EDA) training on May 14th, 2019.
- c) Serving on School of Nursing (SON) Faculty Search Committee as an EDA member, currently interviewing candidates for two faculty positions (FRGV 0894 SON Faculty Clinical Coordinator).

Participation in Field Research Investigations, 01/1982-01/1990

Participated in the palaeoanthropological explorations at Narmada valley, Madhya Pradesh, India, in 1990 as part of a project entitled "Human Origins and Variation."

Performed several activities such as preservation, maintenance, and study of prehistoric, protohistoric, and historic remains consisting of fossils and artifacts.

Involved in a field project titled "Nutrition and growth of certain population groups of Visakhapatnam", 1985-1989, sponsored by the Department of Environment, Government of India.

Collected and analyzed data on sociocultural aspects of health and nutrition, anthropometric measurements, family and individual dietary intake, nutritional assessment, and serological markers from caste populations of Visakhapatnam, India.

Conducted an anthropological fieldwork in 1982 and collected dermatoglyphic data from Koya Dora (a tribe in India), Visakhapatnam, AP., India, as part of the graduate program.

SERVICE TO THE PUBLIC: Participation in Community Service, 01/1977- 01/1980

Participant, Extracurricular and Social Activities and Community Service

Active member of National Social Service. Andhra University, Visakhapatnam, India, 1977-80.

Rendered voluntary service in conducting eye camps organized by Lion's Club, Chirala, A.P., India, 1980.

Worked as an instructor in Adult Education Center at Vijilipet, Chirala under National Adult Education Program Sponsored by the Government of India, 1979-80.

Participated in the campaign of 'Youth for Rural Reconstruction' (sponsored by the Govt. of India and Govt. of Andhra Pradesh) conducted at Ramapuram, Pamidipadu, and Paleru organized by Andhra and Venkateswara Universities. A.P., India, 1978-1979.

Rendered service in the cyclone relief and rehabilitation program in Prakasam district, Andhra Pradesh (A.P), India, 1977.