



Biographical Sketch

NAME: VADLAMUDI RAGHAVENDRA RAO

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POSITION TITLE: RESEARCH DIRECTOR, GENOME FOUNDATION, HYDERABAD; ICMR, EMERITUS MEDICAL SCIENTIST, GENETICS DEPARTMENT, OSMANIA UNIVERSITY, HYDERABAD.

EDUCATION/ TRAINING *(Begin with baccalaureate or other initial professional education.)*

INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	Completion Date YYYY	FIELD OF STUDY
V.R.COLLEGE, S. V. UNIVERSITY, NELLORE, ANDHRA PRADESH.	BSc	1972	BOTANY, ZOOLOG CHEMISTRY
S.V. UNIVERSITY, TIRUPATI, ANDHRA PRADESH.	MSc	1974	BIOLOGICAL ANTHROPOLOGY
KEM HOSPITAL, MUMBAI UNIVERSITY, MUMBAI, MAHARASTRA.	PhD	1990	POPULATION GENETICS

A. Personal Statement

I have the expertise, leadership, training and motivation necessary to conceive and successfully implement scientific projects, besides teaching and administrative assignments during my academic career that spans for over 35 years.

I have a broad background in Human Genetics, with specific training and expertise in Genetics/Genomics of Complex Diseases and Human Genome Diversity of Indian Populations. My research, as Principal Investigator funded by ICMR, DBT & DST, includes application of

Whole Exome Sequencing in Cardiomyopathies; Complex Genetic Basis of Suicides and its association with psychiatric traits, endo-phenotypes and life time/perceived stress factors and Genetics of Parkinson Disease. In the field of Human Genome Diversity studies on Indian populations, our team of scientists lead by me provided massive empirical genome based evidence (complete sequencing of mt DNA of 27 primitive tribes), to infer that our populations harbor ancient DNA signatures dating back to 50,000 to 60,000 years before present. These findings are found to be the basis for evolutionary understanding of disease genes and processes. In addition, I successfully administered the projects (e.g. staffing, research protections, budget), collaborated with other researchers, and produced several peer-reviewed publications from each project.

Piyooash Kumar Singh, **V R Rao** (2018) Explaining Suicide attempt with Personality traits of Aggression and Impulsivity in a High Risk Tribal Population of India (2018) *Plos One*, <http://doi.org/10.1371/journal.pone.0192969>, February 15.

Amitabh Biswas, Soumi Das, Mitali Kapoor, Karuthedath Vellarikkal Shamsudheen, Rijith Jayarajan, Ankit Verma, Sandeep Seth, Balram Bhargava, Vinod Scaria, Sridhar Sivasubbu, **V.R. Rao** (2018). Familial Hypertrophic Cardiomyopathy - Identification of cause and risk stratification through exome sequencing. *Gene* 660:1-6.

Metallomic Biomarkers in Cerebrospinal fluid and Serum in patients with Parkinson's disease in Indian population. *Scientific Reports* (2016) Jaya Sanyal, Shiek SSJ Ahmed, Hon Keung Tony Nag, Tufan Naiya, Epsita Ghosh, Tapas Kumar Banerjee, Jaya Lakshmi Gautam Guha, **Vadlamudi Raghavendra Rao** *Scientific Reports*, 6:35097 | DOI: 10.1038/srep35097.

B. Positions and Honors

Period		Designation	Address
From	To		
17-08-2016	Till Date	ICMR Emeritus Medical Scientist	Dept of Genetics, Osmania University, Hyderabad
01-02-2016	Till Date	Research Director	Genome Foundation, Hyderabad
31-12-2009	31-01-2016	Professor	Biochemical Genetics & Molecular Anthropology Laboratory Dept of Anthropology, University of Delhi, Delhi
02-06-2003	30-12-2009	Joint Director & Director-in-Charge	Anthropological Survey of India, Kolkata
09-05-2001	01-06-2003	Scientist, Gr. IV	Center for Cellular and Molecular Biology (CCMB), Hyderabad
18-10-1993	08-05-2001	Deputy Director	Anthropological Survey of India, Nagpur
06-03-1991	17-10-1993	Research Officer	Institute of Immuno-Hematology (ICMR), Bombay
04-10-1983	05-03-1991	Asst. Research Officer	Institute of Immuno -Hematology (ICMR), Bombay
20-08-1975	03-10-1983	Sr. Technical Assistant	Anthropological Survey of India, CRC Nagpur

Awards

Young Scientist Award of the Indian Society of Human Genetics, 1981.

Award received from Late Hon. Dr. Abdul Kalam, President of India, as Director In-Charge of the Anthropological Survey of India for the production of film in non-feature category as Best Anthropological/Ethnographic Film 2003.

SS Sarkar Memorial Lecture for the Year 2005.

Dr. Panchanan Mitra Memorial Lectureship awarded by the Asiatic Society, Kolkata. November 2009.

Professional Memberships

Project Review Committee in Human Genetics (ICMR) – 2012-2017

Member of the ICMR Task force on Tribal Health (2012-2017)

Expert - P.T. Board for Civil Service (Main) Examination' (UPSC)- 2014

Member, Consultative Group Expert on Mid Term Appraisal of the of the 11th Five Year Plan on Scheduled Tribes (STs). Planning commission (2007-2012)

Member, SAP (UGCA), Department of Anthropology, Raipur University, 2009-2014.

Member, Project Review Committee (PRC) in the area of Human Genetics in the Department of Human Research (DHR), ICMR, Govt. of India, 2010-2013.

Member, Task Force on Human Genetics and Genome Analysis, Department of Biotechnology, Government of India, 2005-2008.

Member Secretary, National Advisory Committee for the establishment of National Repository for the Establishment of Human Genetic Resources, Ministry of Culture, Govt of India. 2005.

Member, State Expert Committee on Scheduled Castes and Tribes Constituted by Maharashtra Govt, 1997-1998.

Member, Committee on Health and Drinking Water constituted by the Department of Science and Technology (DST), New Delhi, 1988-1999.

Life Member, Indian Society of Human Genetics (Twice elected as President)

Life Member, The Indian Anthropological Society

Life Member, Bombay Hematology Group

Life Member, Medical Anthropology

C. Contribution to Science

1.Genome Diversity of the Indian Populations: Based on traditional genetic markers (blood groups by immunological techniques, red cell enzymes, serum proteins by electrophoretic techniques) it is known that African populations have highest diversity followed by Indian populations. However, the advent of molecular markers (DNA) has revolutionized the understanding of genetic diversity. DNA has the advantage of 'in depth resolution' and 'DNA clock'. Through DNA clock one can estimate the time (age) of events that occurred in the remote past. Based on these advances in technology and scientific evaluation of massive empirical data of the world populations, it is theorized that 'humans at present living in all the continents except Africa, are the descendents of 'out of Africa' migration and this theory is famously known as 'theory of out of Africa expansion of modern humans'. Though this theory has been accepted universally, the 'rout' of this expansion remained controversial. One view which is very popular is 'northern rout' migration, which states that out Africa humans moved north, via Europe, Lavant to Asia. Our team, lead by me, undertook a study of complete mt DNA sequencing of 27 most primitive tribes in India which is supportive of an alternative 'southern rout' of out of Africa modern human expansion. This hypothesis entails that out of Africa human traversed main land India, before migrating to other continents. In this respect, our studies for which I was Principal Investigator has catapulted whole understanding of ancient human migrations, which has direct relevance to evolution of disease genes.

Kumar, Satish, Rajasekhara Reddy, Padmaja Koneru, B P Urade, B N Sarkar, A Chandrasekar and **V R Rao** (2009). Reconstructing Indian-Australian Phylogenetic link. *BMC Evolutionary Biology*, 9: 193 doi:10.1186/1471-2148-9-173.

S.S. Barik, R. Sahani, B.V.R. Prasad, P. Endicott, M.Metspalu, B.N.Sarkar, S. Bhattacharya, P.C.H. Annapoorna, J Sreenath, D Sun, J N Sanchez, S Y W Ho, A Chandrasekar and **V.R.Rao** (2008). Detailed mtDNA Genotypes Permit a Reassessment of the Settlement and Population Structure of the Andaman Islands. *American Journal of Physical Anthropology*. 136: 19-27.

Kumar, Satish, P B S V P Padmanabham, Rajasekhara R Ravuri, Kiran Uttaravalli, Padmaja Koneru, P Aditi Mukherjee, B Das, M Kotal, D Xaviour, S Y Saheb and **V R Rao** 2008. The earliest settler's antiquity and evolutionary history of Indian Populations: evidence from M2 mt DNA lineage. *BMC Evolutionary Biology*, 8: 230 doi:10.1186/1471-2148-8-230.

Thangaraj, K, Lalji Singh, A G Reddy, **V R Rao**, S C Sehgal, P A Underhill, M Pierson, I G Frame and E Hagelberg. 2003. Genetic Affinities of the Andaman Islanders, a Vanishing Human Population. *Current Biology*. 13: 86-93.

ii) Genetics of Complex Diseases: In clinical practice there is a paradigm shift from symptomatic treatment to cause of the disease. The advent of genomics has revolutionized the understanding of the biology of disease. Delineating genetic risk factors and path-biology has implications in early diagnosis and therapeutic intervention. In terms of genetics, there is no simple disease, even single gene disorders like Beta thalassemia is complex with several linked and unlinked modifier genes modulating disease process and severity. Regarding common diseases, there is a paradigm shift from common allele to rare alleles, since the heritability of these diseases is not fully explained by the known common alleles. There must be some rare variant sitting somewhere in the genome with maximum affect. These rare variants cannot be detected by tradition gene sequencing technologies. Now, next generation sequencing is making it possible to detect these rare variants. As principal investigator, I have been involved in undertaking projects on genetics of complex disease like, Hypertrophic Cardiomyopathy, Parkinson, Type 1 Diabetes, Gall Bladder Cancer, Alcoholism, Hypertension etc. The approach in all these studies is screening candidate genes in clinically well annotated phenotypes, for which I had collaborated with clinicians. Results were published in peer reviewed journals. I have expanded my scientific inquiry by adopting next generation sequencing in Hypertrophic Cardiomyopathy. Also my recent interest are the study of a challenging phenotype i.e Suicides. Biological understanding of suicides is incipient in our country, where it is thought to be a socio-economic melody. Not even psychiatric traits like depression were considered. There need to be a holistic scientific understanding of this melody. Our initial results are encouraging. DST has approved a major project on Suicides, myself as Principal Investigator and collaborators from Psychiatry Department of All India Institute of Medical Sciences, Delhi.

Evaluation of psychiatric and genetic risk factors among primary relatives of suicide completers in Delhi NCR region, India (2015) Shivani Pasi, PiyooshKumar Singh, Rajeev KumarPandey, P.C.Dikshit, R.C. Jiloha, **V.R. Rao** *Psychiatry Research* 229: 933-939.

Evaluation of PARKIN gene variants in West Bengal Parkinson's disease patients (2015) Jaya Sanyal, Arpita Jana, Epsita Ghosh, Tapas Kumar Banerjee, Durga Prasad Chakraborty, **VR Rao** *Journal of Human Genetics* 60 485-492.

High rate of suicide attempt and associated psychological traits in an isolated tribal population of North-East India (2013) Piyooash Kumar Singh, Rajnish Kumar Singh, Amitabh Biswas, **VR Rao** *J Affect Disorders* 151(2) :673-678.

D. PhD Students: Registered- 10 Awarded-06, Completed- 10

E. Research Support

Completed

1. Title of the Project : Anthropological Study of High Risk Community Lohanas of Gujarat for Beta Thalassemia Genetic Heterogeneity and Origin of 619 bp deletion mutation (with components of ancestry based carrier screening and genetic counseling of affected families for prevention).

Funding Agency : DHR, Indian Council of Medical Research (ICMR)
Govt of India.

Total Grant of the Project : Rs 49,98,960/-

Date of Commencement : 01.08.2014

Date of Completion : 01.08.2017

Role : PI (up to 31.01.2017), CO-PI (from 01.02.2017)
2. Title of the Project : β -thalassemia Disease Burden and Mutation Micro-Profiling in Populations of Telangana

Funding Agency : Telangana State Council of Science

Total Grant of the Project : Rs 6, 48,000/-

Date of Commencement : 22-06.2017

Date of Completion : 21.06.2018

Role : PI

3. Title of the Project : Molecular Genetics of Hypertrophic Cardiomyopathy- A Delhi Family study

Funding agency : University Grants Commission (UGC) Govt of India

Total grant of the Project : Rs.11,97,600/-

Date of commencement : 29.12.2010

Date of completion : 29.12.2013

Role : PI

4. Title of the Project :Genetics of Heart Failure- Screening of intra-genic variants of disease causing, drug metabolizing, drug response and modifier candidate genes in various cardiomyopathies *Phase I study under above title. "Next Generation Whole Genome Targeted Sequencing of 25 candidate genes in Hypertrophic Cardiomyopathy"*.

Funding Agency : Department of Biotechnology (DBT), Govt of India

Total Grant of the Project : Rs 54,25,000/-

Date of Commencement : 09.09.2013

Date of completion : 08.03.2016

Role : PI

5. Title of the Project :Intra-genic variation of candidate genes in Depression and Suicide Ideation: Association Study in Indian population

Funding agency : Department of Science and Technology (DST), Govt of India.

Total grant of the Project : Rs.43,34,200/-

Date of commencement : 21.05.2013

Date of completion : 21.05.2016

Role : PI

Research Publications

Amitabh Biswas, Soumi Das, Mitali Kapoor, Karuthedath Vellarikkal Shamsudheen, Rijith Jayarajan, Ankit Verma, Sandeep Seth, Balram Bhargava, Vinod Scaria, Sridhar Sivasubbu, **V.R. Rao** (2018). Familial Hypertrophic Cardiomyopathy - Identification of cause and risk stratification through exome sequencing. *Gene* 660:1-6.

Explaining Suicide attempt with Personality traits of Aggression and Impulsivity in a High Risk Tribal Population of India (2018) Piyoosh Kumar Singh, **V R Rao** *Plos One*, <http://doi.org/10.1371/journal.Pne.o192969>, February 15.

Attitudes and beliefs among high- and low-risk population groups towards β -thalassemia prevention: a cross-sectional descriptive study from India (2017) Swati Chawla & Rajnish Kumar Singh & Bhaskar V. K. S. Lakkakula & **Raghavendra Rao Vadlamudi** *J Community Genet*, DOI 10.1007/s12687-017-0298-4.

Mutations in hot spot region of MYH7 gene exon 23 associated with restrictive cardiomyopathy (2017) Mitali Kappor, Soumi Das, Amitabh Biswas, Sandeep Seth, Balaram Bhargava, **Vadlamudi Raghavendra Rao** *Cardiogenetics*, 7:6358.

Metallomic Biomarkers in Cerebrospinal fluid and Serum in patients with Parkinson's disease in Indian population. Scientific Reports (2016) Jaya Sanyal, Shiek SSJ Ahmed, Hon Keung Tony Nag, Tufan Naiya, Epsita Ghosh, Tapas Kumar Banerjee, Jaya Lakshmi Gautam Guha, **Vadlamudi Raghavendra Rao** *Scientific Reports*, 6:35097 | DOI: 10.1038/srep35097.

Evaluation of psychiatric and genetic risk factors among primary relatives of suicide completers in Delhi NCR region, India (2015) Shivani Pasi, PiyooshKumar Singh, Rajeev KumarPandey, P.C.Dikshit, R.C. Jiloha, **V.R. Rao** *Psychiatry Research* 229: 933-939.

Evaluation of PARKIN gene variants in West Bengal Parkinson's disease patients (2015) Jaya Sanyal, Arpita Jana, Epsita Ghosh, Tapas Kumar Banerjee, Durga Prasad Chakraborty, **VR Rao** *Journal of Human Genetics* 60 485-492.

Burden among Parkinson's disease care givers for a Community based study from India (2015) Jaya Sanyal, Soumi Das, Epsita Ghosh, TK Banerjee, LVKS Bhaskar, **Vadlamudi Raghavendra Rao** *Journal of the Neurological Science*, 358:276-281.

Clinical genetic aspects of cardiomyopathies (2015) Mitali Kapoor, Sandeep Seth, **Vadlamudi Raghavendra Rao** *Journal of the Practice of Cardiovascular Sciences*, 1.2: 120-127.

Epidemiology of cardiomyopathy-A clinical and genetic study of hypertrophic cardiomyopathy: The EPOCH-H study (2015) Amitabh Biswas, Soumi Das, Mitali Kapoor, Sandeep Seth, Balram Bhargava, **Vadlamudi Raghavendra Rao** *Journal of the Practice of Cardiovascular Sciences* 1.2: 143-149.

Epidemiology of cardiomyopathy-A clinical and genetic study of dilated cardiomyopathy: The EPOCH-D study (2015) Soumi Das, Amitabh Biswas, Mitali Kapoor, Sandeep Seth, Balram Bhargava, **Vadlamudi Raghavendra Rao** *Journal of the Practice of Cardiovascular Sciences* 1.1: 30-34.

Dementia and Cognitive Impairment in Parkinson's disease patients from India: A 7-year Prospective study (2014) Jaya Sanyal, Tapas Kumar Banerjee, **VR Rao** *American Journal of Alzheimer's disease and other dementias* 29: 630-636.

Next generation sequencing in cardiomyopathy: towards personalized genomics and medicine (2014) Amitabh Biswas, **VR Rao**, Sandeep Seth, SK Maulik *Mol Biol Rep*, DOI 10.1007/s11033-014-3418-3419.

High rate of suicide attempt and associated psychological traits in an isolated tribal population of North-East India (2013) Piyoosh Kumar Singh, Rajnish Kumar Singh, Amitabh Biswas, **VR Rao** *J Affect Disorders* 151(2) :673-678.

Association between Neuropeptide Y Gene polymorphism and Alcohol Dependence: A case control study in Two Independent populations (2013) L.V.K.S. Bhaskar, K. Thangaraj, K. Praveen Kumar, G. Pardhasaradhi, Lalji Singh, **V.R. Rao** *Eur Addict Res* 19 307-313

Role of HLA Class II Loci Polymorphism in the Manifestation of Type 1 Diabetes in a Bengali Indian Patient Population. (2013) Oindrila Raha, Biswanath Sarkar, Pasumarthy Veerraju, Godi Sudhakar, Pradip Raychaudhuri, Soma Mukhopadhyay, and **Vadlamudi Raghavendra Rao** *Genetic testing and molecular biomarkers* 17 352-361.

Abnormal Haemoglobins (HbD and HbQ^{India}) and β -Thalassaemia among the Indian Sindhis (2013) Kishalaya Das, Parthasarathi Dhar, Paresh Nath Sahu, **V R Rao**, Dipika Mohanty, *Hereditary Genetics*, S1

Role of MICA repeat polymorphism in the manifestation of type 1 diabetes mellitus in Bengali Indian patients (2013) Oindrila Raha, B N Sarkar, P Veerraju and **V.R.Rao** *Genetica* 45 (2): 611-619 2013.

Role of Modifying Genes on the Severity of Rare Mutation of MYH7 Gene in Hypertrophic Obstructive Cardiomyopathy. (2012) Amitabh Biswas, Soumi Das, Sandeep Seth, SK Maulik, Balram Bhargava and **V R Rao** *Clinical & Experimental Cardiology*, 3(1) 1000225.

Absence of P53 Gene Mutations in Exons 5 - 7 among Breast Cancer Patients of Bengalee Hindu Caste Females, West Bengal, India (2012) Abhishikta Ghosh Roy, BN Sarkar, Rakesh Roy, **VR Rao**, AR Bandyopadhyay *Asian Pacific Journal of Cancer Prevention* 13 : 4477-4479

EPHX1 Gene Polymorphism in Alcohol dependence and their distribution among the Indian Populations (2012) LVKS Bhaskar, K. Thangaraj, Minarbha Patel, Anish M Shah, K. Gopal, L.Saikrishna, Rakesh Tamang, Lalji Singh and **V.R.Rao** *The Am. Jn. of Drug and Alcohol Abuse* 39(1): 16-22

Dopamine Transporter (DAT1) VNTR polymorphism in two culturally different populations of South India (2012) LVKS Bhaskar, K Thangaraj, Samiksha Wasnik. Lalji Singh and **V.R.Rao** *The American Journal of Addiction* 21(4) : 343-347

Standardization of PCR conditions for an ancient DNA amplification (2012) Rajeev Kumar Pandey, Deepankar Pratap Singh, Godi Sudhakar, Kumarasamy Thangaraj, **Vadlamudi Raghavendra Rao** *International Journal of Human Sciences* 9(1) :102-109.

Insulin (INS) promoter VNTR polymorphisms: interactions and the association with type 1 diabetes mellitus in Bengali speaking patients of Eastern India (2011) Oindrila Raha, B.N.Sarkar, L.V. K. S. Bhaskar, P.Veerraju, Subhankar Chowdhury, Soma Mukherjee, Tapas Kr. Biswas, **V.R.Rao** *Diabetologia Croatica*. 40 (4) : 99-106.

Identification of novel single nucleotide polymorphism (SNP) in DPB1 gene in ethnic populations from West Bengal (2011) Oindrila Raha, B.N. Sarkar, P.Veerraju, Lucy Pramanik, **V.R.Rao** *Genetika* 43(1): 205-208.

A Novel Polymorphism in Codon 25 of the KRAS Gene Associated with Gallbladder carcinoma Patients of the eastern part of India (2011) Vishmadeb Pramanik, Biswanath N. Sarkar, Madhuchanda Kar, Gautam Das, Barman K.Malay, Khannam K. Sufia, Bhaskar V.K.S. Lakkakula and **Rao R. Vadalmudi** *Genetic testing and Molecular Biomarkers* 15(6) :431-434.

Association Between the M268T Polymorphism in the Angiotensinogen Gene and Essential Hypertension in a South Indian Population (2011) Gopichand M, J Sreenath, R S Rao, Bhaskar V K S Lakkakula, Satish Kumar, **V R Rao** *Biochem. Genet* 49 (7): 474-482.

Evaluating intra-genetic variants of DJ-1 among Parkinson's disease patients of Eastern India (2011) Jaya Sanyal, Biswanath Sarkar, Tapas Kumar Banerjee, Subhash Chandra Mukherjee, Bidhan Chandra Ray, **V. Raghavendra Rao** *Neurological Research* 33(4) : 349-353.

Knowledge, Attitude and Practice Study of Beta-Thalassemia in Rural Bengal (2011) Janak K Shrivastava, Nupur Sinha, SK Behera, S Panja, BN Sarkar, **VR Rao** *Genetic Clinics* 4(4) : 13-15.

Ancient DNA: History and Applications (2011) Rajeev Kumar Pandey, Godi Sudhakar, **Vadlamudi Raghavendra Rao** *Indian Stream Research Journal* 1 (V I): 1-4.

Beta-Globin Gene haplotypes in Manipur, North-east India (2011) Maishnam Rustam Singh, B.Choudhury, T.Shyamacharan Singh and **V.R.Rao** *Int J Hum Genet* 11 (1) : 45-49.

Single nucleotide polymorphisms of PARKIN gene in ten Indian populations (2011) Jaya sanyal, LVKS Bhaskar, Avishek Chatterjee, Biswanath Sarkar, Bidhan Chandra Ray, **Vadlamudi Raghavendra Rao** *Anthrocom online journal of Anthropology* 7(1) : 103-113.

Neuropeptide Y Gene Polymorphisms are Not Associated With Obesity in a South Indian Population (2010) Bhaskar, L V K S, K Thangaraj, G Parthasarathy, K Praveen Kumar, Lalji Singh and **V R Rao** *Eur. J. Clinical Nutrition* 64 : 868-872.

Plasma level of nitrates in patients with Parkinson's disease in West Bengal (2010) Sanyal, Jaya, B N Sarkar, Tapas Kumar Banerjee, Subhash Chandra Mukherjee, Bidhan Chandra Ray and **V R Rao** *Neurology Asia*, 15(1) : 55-59.

Environmental and Familial Risk factors of Parkinson's Disease case-control study (2010) Sanyal, Jaya, D P Chakraborty, Biswanath Sarkar, Tapas Kumar Banerjee, Subhas Chandra Mukherjee, Bidhan Chandra Roy and **V R Rao** *Canadian J. of Neurological Sciences* 37 (5): 637-642.

A validation Study of Type 2 Diabetes –related variants of the TCF7L2, HHEX, KCNJ11 and ADIPOQ genes in one endogamous ethnic group of North India (2010) Vipin Gupta, Rajesh Khadgawat, Hon Keung Tony NG, Satish Kumar, Ajay Aggarwal5, **Vadlamudi Raghavendra Rao*** and M. P. Sachdeva *Annals of Human Genetics* 74(4): 361-368.

Population Structure of Aggarwals of North India revealed by Molecular Markers (2010) Vipin Gupta, Rajesh Khadgawat, Hon Keung Tony Ng, Satish Kumar, **Vadlamudi Raghavendra Rao**, and Mohinder Pal Sachdeva *Genetic Testing and Molecular Markers* 14(6) : 781-785.

Absence of commonly reported LRRK2 mutations in Eastern Indian Parkinson's disease patients (2010) Sanyal Jaya, B N Sarkar, Ojha, T K Banerjee, B C Ray and **V R Rao** *Genetic Testing and Molecular Biomarkers* 14(5): 691-694.

Population Based case control study of DRD2 gene polymorphisms and Alcoholism (2010) Bhaskar, L V K S, K Thangaraj, AL Non, Lalji Singh and **V R Rao** *Journal of Addictive Diseases* 29(4): 475-480.

Cross sectional reference values of upper arm anthropometry of the Khasi tribal adolescents of Meghalaya (2010) Debashis Basu PhD , Deimaphishisha Sun MSc, Indraneel Banerjee MRCPCH, Y Momo Singh MSc, Jennifer G Kalita MSc, **Vadlamudi Raghavendra Rao** PhD, India *Asia Pacific J. Clin. Nutrition*. 19(2): 283-288.

Neuropeptide Y gene functional polymorphism influences susceptibility to hypertension in Indian population (2010) Bhaskar, L V K S, K Thangaraj, AL Non, K Praveen Kumar, G Pardhasaradhi, L Singh and **VR Rao** *Journal of Human Hypertension* 24: 617-622.

Plasma levels of lipid peroxides in patients with Parkinson's disease (2009) Sanyal, J, S K Bandopadhyay, T K Banerjee, S C Mukherjee, D P Chakraborty, B C Ray and **V R Rao** *European Review for Medical and Pharmacological Sciences* 13: 129-132.

Reconstructing Indian-Australian Phylogenetic link (2009) Kumar, Satish, Rajasekhara Reddy, Padmaja Koneru, B P Urade, B N Sarkar, A Chandrasekar and **V R Rao** *BMC Evolutionary Biology* 9: 193 doi:10.1186/1471-2148-9-173.

Dopamine transporter (DAT1) VNTR polymorphism in 12 Indian populations (2009) Bhaskar, L V K S, Kumarasamy Thangaraj, Connie J Mulligan, Samiksha Wasnik, Amrita Nandan, Varun Kumar Sharma, Vishwas Sharma, Alla Govardhana Reddy, Lalji Singh and **Vadlamudi Raghavendra Rao** *Neurol Sci* 30(6) : 487-493.

Updating Phylogeny of Mitochondrial DNA Macrohaplogroup M in India: Dispersal of Modern Human in South Asian Corridor (2009) Chandrasekar Adimoolam, Satish Kumar, Jwalapuram Sreenath, Bishwa Nath Sarkar, Bhaskar Pralhad Urade, Sujit Mallick, Syam Sundar Bandopadhyay, Pinuma Barua, Subhra Sankar Barik, Debasish Basu, Uttaravalli Kiran, Prodyot Gangopadhyay, Ramesh Sahani, Bhagavantula Venkata Raviprasad, Shampa Gangopadhyaya, Gandikota Rama Lakshmi, Rajasekhara Reddy Ravuri, Koneru Padmaja, Pulamaghatta N. Venugopal, Madhubala Sharma, **Vadlamudi Raghavendra Rao** *PLoS ONE* 4(10): e7447.

Approaches in type 1 diabetes research: A status report (2009) Oindrila Raha, Subhankar Chowdhury, Samir Dasgupta, P. Raychaudhuri, B. N. Sarkar, P. Veer Raju, and **V. R. Rao** *Int J Diabetes Dev Countries* 29(2) : 85–101.

Genetic testing: Early care for a healthy future (2009) Verma, I C, **V R Rao** and A Ramesh *Modern Medicare* November Issue.

Detailed mtDNA Genotypes Permit a Reassessment of the Settlement and Population Structure of the Andaman Islands (2008) S.S. Barik, R. Sahani, B.V.R. Prasad, P. Endicott, M.Metspalu, B.N.Sarkar, S. Bhattacharya, P.C.H. Annapoorna, J Sreenath, D Sun, J N Sanchez, S Y W Ho, A Chandrasekar and **V R Rao** *American Journal of Physical Anthropology* 136 :19-27.

Andamanese Mythical Signatures Linking Gondwana Mythology with the Laurasian Cluster (2008) Sreenathan, M and **V R Rao** *Mother Tongue: Journal of the Association for the Study of Language in Prehistory* XIII: 249-264.

The earliest settler's antiquity and evolutionary history of Indian Populations: evidence from M2 mt DNA lineage (2008) Kumar, Satish, P B S V P Padmanabham, Rajasekhara R Ravuri, Kiran Uttaravalli, Padmaja Koneru, P Aditi Mukherjee, B Das, M Kotal, D Xaviour, S Y Saheb and **V R Rao** *BMC Evolutionary Biology* 8: 230-244.

Palaeolithic Cognitive Inheritance in Aesthetic Behavior of the Jarawas of the Andaman Islands (2008) Sreenathan, M, **V R Rao** and R G Bednarik *Anthropos* 103 : 367-392.

Allelic variation and Haplotype structure of the Dopamine Receptor Gene DRD2 in nine Indian Populations (2008) Bhaskar, L V K S, K Thangaraj, C J Mulligan, A P Rao, G Pardhasaradhi, K P Kumar, A M Shah, B Sabeena, A G Reddy, L Singh and **V R Rao** *Genetic Test* 12 (1): 153-160

Genetics of Alcohol Use in Humans: An Overview (2008) Nayak, Jayanta Kumar, B N Sarkar, P K Das and **V R Rao** *Int J Hum Genet* 8(1-2): 181-197.

Allelic variants of DYX1C1 are not associated with dyslexia in India (2008) Saviour, Pushpa, Satish Kumar, U Kiran, Rajasekhara Reddy Ravuri, **V R Rao** Nallur Basappa Ramachandra *Ind Jn of Human Genetics* 14(3): 99-102.

Single Nucleotide Polymorphism in Alcohol Dehydrogenase genes among Indian Populations (2007) Rao R V, L V K S Bhaskaran, Ch Annapurna, A G Reddy, K Thangaraj, Lalji Singh *Am.J.Hum.Biol* 19 : 338-344.

Allelic variation in the NPY gene in 14 Indian populations (2007) Bhaskar, L V K S, K Thangaraj, Anish M Shah, G Pardhasaradhi, K Praveen Kumar, A G Reddy, A Papa Rao, C J Mulligal, Lalji Singh, **V R Rao** *J Hum Genet* 52 : 592-598.

YAP insertion signature in South Asia (2007) Chandrasekar, A, S Y Saheb, P Gangopadhyaya, S Gangopadhyaya, A Mukherjee, D Basu, G R Lakshmi, A K Sahani, B Das, S Bhattacharya, S Kumar, D Xaviour, D Sun and V R Rao *Annals of Human Biology* 34(5) : 582-586.

Single Nucleotide Polymorphisms of the ALDH2 gene in six Indian populations (2007) Bhaskar L V K S, K Thangaraj, Michael Osier, A G Reddy, A Papa Rao, Lalji Singh and **V R Rao** *Annals of Human Biology* 34(6): 607-619.

Genetic Affinities of the Andaman Islanders, a Vanishing Human Population (2003) Thangaraj, K, Lalji Singh, A G Reddy, **V R Rao**, S C Sehgal, P A Underhill, M Pierson, I G Frame and E Hagelberg *Current Biology* 13 : 86-93.

Pairwise mtDNA-HVR1I sequence differences and geographical maternal distances in Korku, an Austro-Asiatic tribe in Central India (2003) **Rao R V**, K Thangaraj, A G Reddy, V Sridhar and Lalji Singh *Ind. J. Hum. Genetics* 9(1): 25-28.

A1A2Bo, Rh(D) Blood groups and Haemoglobinopathies among Neo-Buddhist (Mahar) of Nagpur City (2003) Jain Manoj K, K Das, P B S V Padmanabham, P Dhar and **V R Rao** *Man in India* 84(1&2) : 77-78.

Distribution of some Genetic Polymorphisms among the Indian Tribes (2001) Das, Kishalaya and **V R Rao** *J.Ind.Anth.Soc* 36: 271-301.

High frequency of Haemoglobin D trait in Central India-A study on the Sindhi Subgroups of Nagpur City (2000) Das Kishalaya, P Dhar, Gopalakrishnan, V R Thawani and **V R Rao** *J. Ind.Anth.Soc* 49 : 1-12.

Variation of HbS Frequency in Indian Population: Role of P.Falciparum and Other Factors (1998) **Rao, R V** *Ind.Jn. of Human Genetics* 4 : 23-31.

Physical anthropological research in India and recent advances in recombinant DNA technology: An approach paper (1998) **Rao, R V** 1998 *South Asian Anthropologist* 19(1): 45-50.

Evaluation of NESTROFT as a primary screening for Beta thal trait detection among Sindhis of Nagpur (1997) Dhar, P, P Gangopadhyay, J Sreenath and **V R Rao** *Journal of the Anthropological Survey of India* 46: 79-90.

Biochemical Characterization of a fast moving G6PD variant-G6PD INSULI (1995) Mudera V, M B Mukherjee, Z Sayyed and **V R Rao** *Ind. Jn. Hum. Genet* 1(1): 27-32.

Genetic heterogeneity and population structure of Gond related tribes in Vidarbha region of Maharashtra (1992) **Rao V R**, M S Sathe, A C Gorakshakar and K Vasantha *Hum Biol* 64(6) : 903-917.

Estimating Genetic load in some tribes of Maharashtra (1991) **Rao R V** and M S Sathe *Ind. J. Phy. Anth. & Hum. Gen* 17(1) : 15-20.

Prevalence of HbsAg carriers among some tribes of Madhya Pradesh (1990) Joshi S H, A C Gorakshakar, M Mukherjee, **V R Rao**, M S Sathe, S M Anbhavne and (Late) H M Bhatia *Ind. J. Med. Res* 91(A): 340-343.

A1A2BO, MN, Rh blood markers in tribes of Raipur district, Madhya Pradesh (1990) Mukherjee M, **V R Rao**, S D Agarwal, K Vasantha, A C Gorakshakar, M S Sathe and H M Bhatia *Gene Geography* 4 : 125-130.

Sickle cell hemoglobin, B thalassemia and G6PD deficiency in tribes of Maharashtra, India (1990): **Rao V R** and A C Gorakshakar *Gene Geography* 4 : 131-134.

Prevalence of Hepatitis B surface antigen (HbsAg) among some tribes of Madhya Pradesh, Rajasthan and Maharashtra (1990) Mukherjee M, S H Joshi, **V R Rao**, A C Gorakshakar and M S Sathe *J.Ind.Anth.Soc* 25(1) : 68-72.

Quantitative assessment of HbS in sickle cell heterozygotes among some tribes in Maharashtra (1988) **Rao R V** and H M Bhatia *Ind. J. Med. Res* 87: 257-261.

Genetics and epidemiology of sickle cell anemia in India (1988) **Rao R V** *ICMR Bulletin* 18(9) .

Components of g isonomy among the Naik Gonds (1988) **Rao R V** and V Balakrishnan *Ind. J. Phys. Anth. & Hum. Genet* 14(1&2): 13-17.

Gond ethnic milieu and the extent of an endogamous group: Naik Gonds (1988) **Rao R V** *J.Ind.Anth.Soc* 23(1): 57-62.

Red cell genetic abnormalities in the tribes of five districts of Madhya Pradesh (1987) Sathe, M S, A C Gorakshakar, **V R Rao**, M Mukherjee, K Vasantha and H M Bhatia *Ind. J. Med. Res* 86: 808-811.

A1A2BO, MN, Rh blood groups among the Gond, Oraon and Kwar tribal groups of Ambikapur district, Madhya Pradesh(1986) Bhatia H M, **V R Rao**, K Vasantha, M S Sathe and R P Mishra *J.Ind. Anth.Soc* 21(1): 73-77.

Gond ethnicity and blood groups in Central India (1986) **Rao, R V** and H M Bhatia *J.Ind.Anth.Soc* 21(3): 251-259.

Digital formulae of hands and feet in India populations (1986) **Rao, R V** *Prezegland Anthropologiczny* 52(7): 1-2.

Estimation of certain genetic demographic parameter for the Naik Gonds (1983) Rao V R *Human Science* 23(4): 275-283.

Manual digital formulae: A study among the Nagesia of Surguja district, M.P (1979) **Rao R V** and S K Roychoudhury *Man in India* 59(3): 240-246

Quantitative genetics of relative toe lengths (1976) Mukherjee, D P and **V R Rao** *J. Ind.Anth.Soc* 11(2): 107-116.

Association between digital formulae of hands and feet (1975) Mukherjee, D P and **V R Rao**. *Phys. Anth & Hum. Genet* 1: 1-9.

Books

Genetic Atlas of the Indian tribes (1987) Bhatia, H M and **V R Rao** Bombay IIH (ICMR).

Hemoglobinopathies in Indian populations. Series in bibliography on human genetics in India (1989) **Rao, V R**, S R Naik and P Mukherjee K C Malhotra, ed. Calcutta Indian Society of Human Genetics.

Human Origins, Genome & People of India, Genomic, Palaeontological and Archaeological Perspectives (2007) Sankhyan, A R and **V R Rao** ed Kolkata Anthropological Survey of India.

Identity, Cultural Pluralism and State: South Asia in Perspective (2009) Das, N K and **V R Rao** ed. Macmillan Publishers(India) in association with Anthropological Survey of India.