Dr Swarkar Sharma, Ph.D. , PDF-USA

1.	Teaching Experience in Years	4 years
2.	Research Experience in Years	14 years
3.	Work Experience in Years	>8 years
6.	Area of Specialization	Human Genetics
8.	Number of Publications in Conferences	>20
9.	Patents	4 in Process
10.	No. of PG Projects Guided	17
11.	No. of Doctorate Students Guided/Guiding	5
12.	Number of Publications in International reputed Journal (list below)	30

Specialization: Ph.D. in Human Genetics, Fellow in Molecular Genetics, TSRH and NIH USA.

Research Interests: Human Genetics, Evolution and Phylogenetics, Genomics, Molecular biology and Genetics of Rare Human Disorders and Complex Genetic Diseases.

Honorary Awards:
Russel A. Hibbs Basic Science Award 2012, by Scoliosis Research Society, USA
John S. Appelton Spine Research Award 2009 by Texas Scottish Rite Hospital, Dallas, USA
Enlisted amongst Leading Health Professionals of the World (2014) by International Biographical Centre, Cambridge, UK for contribution in Medical Genetics.
Group nominated for Russel A. Hibbs Basic Science Award 2014, by Scoliosis Research Society, USA

Projects:

1. Mentor for DST Govt. of India SERB N-PDF Project "Phenotypic and molecular characterization of intellectual disability among highly consanguineous human population" to Dr. Mohd. Fareed (2017-2019)
2. Mentor for DST Govt. of India WOS-A Project DST "Genetics of Gastric Carcinoma in Ethnic Population of Kashmir" to Ms Ruch Shah (2016-2019)
3. DST Govt. of India Start up research Grant to Young Scientists "Genetic perspectives of Type 2 Diabetes susceptibility in population group of Jammu and Kashmir, India" (October 2014-October 2017).
4. National Geographic Society, USA Grant under Human Genographic Project "Genetic Diversity and Evolutionary Perspectives in Population Groups of Jammu and Kashmir" (Grantee Since Jan 2014)
5. Completed UGC Govt. Of India Startup Grant "Human Genetic Diversity and Evolutionary Perspectives of Type 2 Diabetes Susceptibility in Indian Populations" [May 2013-May 2015]
6. Completed Postdoctoral Research Project at Texas Scottish Rite hospital, Dallas, Texas, USA by National Institute of Health, USA and Texas Scottish Rite Hospital, USA [May 2008 - Nov 2012]
7. Completed CSIR SRF Project at Guru Nanak Dev University, Amritsar [2006-2008]

List of Scientific Communications and Other Database Submissions:

Peer Reviewed Journals:

1. Sahakyan, H., B. Hooshiar Kashani, R. Tamang, A. Kushniarevich, A. Francis, M. D. Costa, A. K. Pathak, Z. Khachatryan, I. Sharma, M. van Oven, J. Parik, H. Hovhannisyan, E. Metspalu, E. Pennarun, M. Karmin, E. Tamm, K. Tambets, A. Bahmanimehr, T. Reisberg, M. Reidla, A. Achilli, A. Olivieri, F. Gandini, U. A. Perego, N. Al-Zahery, M. Houshmand, M. H. Sanati, P. Soares, E. Rai, J. Sarac, T. Saric, V. Sharma, L. Pereira, V. Fernandes, V. Cerny, S. Farjadian, D. P. Singh, H. Azakli, D. Ustek, N. Ekomasova Trofimova, I. Kutuev, S. Litvinov, M. Bermisheva, E. K. Khusnutdinova, N. Rai, M. Singh, V. K. Singh, A. G. Reddy, H. V. Tolk, S. Cvjetan, L. B. Lauc, P. Rudan, E. N. Michalodimitrakis, N. P. Anagnou, K. I. Pappa, M. V. Golubenko, V. Orekhov, S. A. Borinskaya, K. Kaldma, M. A. Schauer, M. Simionescu, V. Gusar, E. Grechanina, P. Govindaraj, M. Voevoda, L. Damba, **S. Sharma**, L. Singh, O. Semino, D. M. Behar, L. Yepiskoposyan, M. B. Richards, M. Metspalu, T. Kivisild, K. Thangaraj, P. Endicott, G. Chaubey, A. Torroni and R. Villems (2017). "Origin and spread of human mitochondrial DNA haplogroup U7." **Nature Scientific Reports 7: 46044.**
2. Sharma V, Sharma I, Sethi I, Mahajan A, Singh G, Angural A, Bhanwer AJ, Dhar MK, Singh V, Rai E, **Sharma S*** (2017) "Replication of newly identified type 2 diabetes susceptible loci in Northwest Indian population" **Diabetes Res Clin Pract. doi: 10.1016/j.diabres.2017.02.013. *corresponding author**
3. Itty Sethi, G.R. Bhat, Vinod Singh, Rakesh Kumar, AJS Bhanwer, Rameshwar N. K. Bamezai, **Swarkar Sharma*** Ekta Rai*. (2016) Role of Telomeres and Associated Maintenance Genes in Type 2 Diabetes Mellitus: A Review. **Diabetes Research and Clinical Practice. doi: 10.1016/j.diabres.2016.10.015 *Corresponding Author**
4. Shafat Ali, Shazia Nafis, Ponnusamy Kalaiarasan, Ekta Rai, **Swarkar Sharma***, Rameshwar NK Bamezai*(2016) Understanding Genetic Heterogeneity in Type 2

Diabetes by Delineating Physiological Phenotypes – SIRT1 and its Gene Network in Impaired Insulin Secretion. **Rev Diabet Stud, 13(1):17-34 *Corresponding Author**

5. Ekta Rai, Ankit Mahajan, Parvinder Kumar, Arshia Angural, Manoj K Dhar, Sushil Razdan, Kumarasamy Thangaraj, Carol A. Wise, Shiro Ikegawa, Kamal Kishore Pandita, **Swarkar Sharma** (2016) Whole Exome Screening Identifies Novel and Recurrent WISP3 Mutations Causing Progressive Pseudorheumatoid Dysplasia in Jammu and Kashmir-India. **Nature Scientific Reports , 13;6:27684. doi: 10.1038/srep27684. *Corresponding Author**
6. Mary J. Gray*, Peter Kannu*, **Swarkar Sharma*,** Christine Neyt*, Dongping Zhang, Nandina Paria, Philip B. Daniel, Heather Whetstone, Hans-Georg Sprenger, Philipp Hammerschmidt, Angela Weng, Lucie Dupuis, Rebekah Jobling, Roberto Mendoza-Londono, Michael Dray, Peiqiang Su, Megan J. Wilson, Raj P. Kapur, Edward F. McCarthy, Ben A. Alman, Andrew Howard, Gino R. Somers, Christian R. Marshall, Simon Manners, Adrienne M. Flanagan, Karl Rathjen, Lori A. Karol, Haemish Crawford, David M. Markie, Jonathan J. Rios, Carol A. Wise, Stephen P. Robertson (2015). Mutations Preventing Regulated Exon Skipping of MET Cause Osteofibrous Dysplasia. **American Journal of Human Genetics 97(6), 3: 837–847 *First Shared Author**
7. **Sharma S**, Londono D, Eckalbar WL, Gao X, Zhang D, Mauldin K, Kou I, Takahashi A, Matsumoto M, Kamiya N, Murphy KK, Cornelia R; TSRHC Scoliosis Clinical Group; Japan Scoliosis Clinical Research Group, Herring JA, Burns D, Ahituv N, Ikegawa S, Gordon D, Wise CA. (2015) A PAX1 enhancer locus is associated with susceptibility to idiopathic scoliosis in females. **Nature Communication 2015 Mar 18;6:6452. doi: 10.1038/ncomms7452.**
8. Londono D*, Kou I*, Johnson TA*, **Sharma S*,** Ogura Y, Tsunoda T, Takahashi A, Matsumoto M, Herring JA, Lam TP, Wang X, Tam EM, Song YQ, Fan YH, Chan D, Cheah KS, Qiu X, Jiang H, Huang D; Japanese Scoliosis Clinical Research Group, TSRHC IS Clinical Group, the International Consortium for Scoliosis Genetics, Su P, Sham P, Cheung KM, Luk KD, Gordon D, Qiu Y, Cheng J, Tang N, Ikegawa S, Wise CA (2014) A meta-analysis identifies adolescent idiopathic scoliosis association with LBX1 locus in multiple ethnic groups **J Med Genet. 2014 Apr 10. doi: 10.1136/jmedgenet-2013-102067.** *First Shared Author
9. Varun Sharma, Indu Sharma, Vishav Pratap Singh, Sonali Verma, Anil Pandita, Vinod Singh, Ekta Rai, **Swarkar Sharma** (2014) mtDNA G10398A Variation Provides Risk to Type 2 Diabetes in Population Group from Jammu Region of India. **MetaGene 2014 Apr 13. doi:10.1016/j.mgene.2014.02.003**.*Corresponding author.
10. Mahajan A, **Sharma S**, Dhar MK, Bamezai RNK (2013) Risk factors of type 2 diabetes in population of Jammu and Kashmir, India. **Journal of Biomedical Research 27 (5), 372**
11. Ikuyo Kou, Yohei Takahashi, Todd A Johnson, Atsushi Takahashi, Long Guo, Jin Dai, Xusheng Qiu, **Swarkar Sharma**, Aki Takimoto, Yoji Ogura, Hua Jiang, Huang Yan, Katsuki Kono, Noriaki Kawakami, Koki Uno, Manabu Ito, Shohei Minami, Haruhisa Yanagida, Hiroshi Taneichi, Naoya Hosono,Taichi Tsuji, Teppei Suzuki, Hideki Sudo, Toshiaki Kotani, Ikuho Yonezawa, Douglas Londono,Derek Gordon, John A Herring, Kota Watanabe, Kazuhiro Chiba, Naoyuki Kamatani, Qing Jiang,Yuji Hiraki, Michiaki Kubo, Yoshiaki Toyama, Tatsuhiko Tsunoda, Carol A Wise, Yong Qiu,Chisa Shukunami, Morio Matsumoto & Shiro Ikegawa (2013)

Genetic variants in GPR126 are associated with adolescent idiopathic scoliosis. **Nature Genetics 45 (6), 676-679**

12. Shafat Ali, Rupali Chopra, Siddharth Manvati, Yoginder Singh, Nabodita Koul, Anita Behura, Ankit Mahajan, Prabodh Sehajpal, Subash Gupta, Manoj K Dhar, Chainy Gagan BN, Amarjit S. Bhanwar, **Swarkar Sharma*,** Rameshwar NK Bamezai* (2013) "Replication of Type 2 diabetes candidate genes variations in three geographically unrelated Indian population groups" **PLoS one. 8(3): e58881.** *Corresponding author.
13. Wenjie Gao, Yan Peng, Guoyan Liang, Anjing Liang, Wei Ye, Liangming Zhang, **Swarkar Sharma**, Peiqiang Su, Dongsheng Huang (2013) Association between Common Variants near LBX1 and Adolescent Idiopathic Scoliosis Replicated in the Chinese Han Population. **PLoS One 8(1): e53234**
14. Rai E, **Sharma S***, Kaul S, Jain K, Matharoo K, Bhanwer AS, Bamezai RN* (2012) The interactive effect of SIRT1 promoter region polymorphism on type 2 diabetes susceptibility in the North Indian population. **PLoS One.7(11):e48621.** *Corresponding author.
15. Liang G, Gao W, Liang A, Ye W, Peng Y, Zhang L, **Sharma S**, Su P, Huang D (2012). Normal leptin expression, lower adipogenic ability, decreased leptin receptor and hyposensitivity to Leptin in Adolescent Idiopathic Scoliosis. **PLoS One;7(5):e36648.**
16. Londono D, Buyske S, Finch SJ, **Sharma S**, Wise CA, Gordon D. (2012) TDT-HET: a new transmission disequilibrium test that incorporates locus heterogeneity into the analysis of family-based association data**. BMC Bioinformatics. 20;13:13.**
17. Carol A Wise, **Swarkar Sharma**, Xiaochong Gao, Douglas Londono, Kristen N Mauldin, January M Brandon, Vanessa King, Dongping Zhang, Derek Gordon, John A Herring (2012)Genome-wide association studies of adolescent idiopathic scoliosis suggest genes encoding axon guidance molecules as candidates for disease susceptibility **Journal of Bone and Joint Surgery - British Volume 01/2012; 94-B(SUPP XXVII):46**
18. **Sharma S,** Gao X, Londono D, Devroy SE, Mauldin KN, Frankel JT, Brandon JM, Zhang D, Li QZ, Dobbs MB, Gurnett CA, Grant SF, Hakonarson H, Dormans JP, Herring JA, Gordon D, Wise CA (2011). Genome-wide association studies of adolescent idiopathic scoliosis suggest candidate susceptibility genes. **Hum Mol Genet;20(7):1456-66**.
19. **Swarkar Sharma**, Xiaochong Gao, Douglas Londono, Matthew B Dobbs, Christina Gurnett, John A Herring, Derek Gordon, Carol Wise (2010) Genome-wide Study Reveals Genetic Loci Associated with Idiopathic Scoliosis. **Spine p107**
20. **Sharma S**, Rai E, Sharma P, Jena M, Singh S, Darvishi K, Bhat AK, Bhanwer AJS, Tiwari PK, Bamezai RNK (2009). The Indian origin of Paternal Haplogroup R1a1* substantiates Autochthonous origin of Brahmins and Caste System. J Hum Genet**;54(1):47-55.**
21. Gochhait S, Bhatt A, **Sharma S**, Singh YP, Gupta P, Bamezai RN (2008) Concomitant presence of mutations in mitochondrial genome and p53 in cancer development - a study in north Indian sporadic breast and esophageal cancer patients. **Int J Cancer**. **123(11):2580-6**.
22. Bhattacharya P, **Sharma S**, Gochhait S, Bamezai RN (2008) Biophysical characterization of double-stranded oligonucleotides using ETBR and isothermal fluorescence spectroscopy: implication for SNP genotyping. **J Biochem Biophys Methods 70(6):1163-73**.

23. **Sharma S**, Rai E, Bhat A, Bhanwer AS, Bamezai RN (2007). A Novel Subgroup Q5 of Human Paternal Haplogroup Q in India. **BMC Evol Biol**. 7(1):232
24. Rai E, **Sharma S**, Koul A, Bhat A, Bhanwer AJS, Bamezai R (2007). Interaction between the UCP2–866G/A, mtDNA 10398G/A and PGC1α p.Thr394Thr and p.Gly482Ser polymorphisms in type 2 diabetes susceptibility in North Indian population. **Hum Genet. 122(5):535-40**
25. Bhat A, Koul A, Rai E, **Sharma S**, Dhar MK, Bamezai RN (2007). PGC-1alpha Thr394Thr and Gly482Ser variants are significantly associated with T2DM in two North Indian populations: a replicate case-control study. **Hum Genet. 121(5):609-14.**
26. Darvishi K, **Sharma S**, Bhat AK, Rai E, Bamezai RN (2007). Mitochondrial DNA G10398A polymorphism imparts maternal Haplogroup N a risk for breast and esophageal cancer. **Cancer Lett; 249(2): 249-55**
27. Bhat A, Koul A, **Sharma S**, Rai E, Bukhari SI, Dhar MK, Bamezai RN (2007). The possible role of 10398A and 16189C mtDNA variants in providing susceptibility toT2DM in two North Indian populations: a replicative study. **Hum Genet; 120(6): 821-6.**
28. **Sharma S**, Saha A, Rai E, Bhat A, Bamezai R (2007). Human mtDNA hypervariable regions, HVR I and II, hint at deep common maternal founder and subsequent maternal gene flow in Indian population groups. **J Hum Genet; 50(10): 497-506.**
29. Malhotra D, Darvishi K, Sood S, **Sharma S**, Grover C, Relhan V, Reddy BS, Bamezai RN (2005) IL-10 promoter single nucleotide polymorphisms are significantly associated with resistance to leprosy. **Hum Genet; 118(2): 295-300.**
30. Saha A, **Sharma S**, Bhat A, Pandit A, Bamezai R (2005). Genetic affinity among five different population groups in India reflecting a Y-chromosome gene flow. **J Hum Genet; 50(1): 49-51.**

Book Chapters:

1. Wise CA, **Sharma S** (2010) Current Understanding of Genetic Factors in Idiopathic Scoliosis (in) The Genetics and Development of Scoliosis (eds) Kusumi K, Dunwoodie SL, **Springer, USA ISBN: 978-1-4419-1405-7**
2. Wise CA, **Sharma S** (2011) Genetics (in) Orthopaedic Knowledge Update Pediatrics 4 (eds). Song KM (Section eds) Kim HK, **American Academy of Orthopaedic Surgeons, USA ISBN: 978-0-8920-3643-1**

Database submissions

1. NCBI Gene bank submissions: Human Complete mtDNA sequences maternal Haplogroup U2 from Jammu and Kashmir, India: KU178917, KU178918, KU178919, KU178920, KU178921, KU178922, KU178923, KU178924, KU178925.
2. NCBI Gene bank submissions: Human Complete mtDNA sequences maternal Haplogroup U7 from Jammu and Kashmir India: KU178926, KU178927, KU178928, KU178929, KU178930, KU178931.
3. NCBI Gene bank submissions: 16S RNA sequences of Bacterial Strains: *Bacillus subtilis* and *Geobacillus thermoparaffinivorans*. Accession nos: KT985358 and KT985359
4. NCBI dbSNP submissions (BUILD 127): ss60197955 (rs41315531), ss60197956 (rs41296860): IL-10 Promotor region polymorphisms (-3486A & -3487G) in Indian population group.

5. NCBI dbSNP submissions (BUILD 127): ss65713825 (rs41352448): Y-haplogroup Q lineage present in Indian population.
6. NCBI dbSNP submissions (BUILD 127): ss65917443: Novel polymorphism in the 5'utr region of Human SIRT1 gene (at position -863), probably a HNF-1alpha (Hepatocyte Nuclear Factor 1alpha) binding site.
7. NCBI Gene bank submissions: Accession no: AY642000 to AY642023 (24 Submissions). Novel mutations detected in mtDNA HVR II from individuals of different Indian Populations.
8. NCBI Gene bank submissions: Accession no: AC624759 (from Y chromosome), AC624527, AC624749, AC631482, AC631472, AC630968 and AY642024 to AY642033. Novel mutations detected in mtDNA HVR II from individuals of different populations groups of Jammu and Kashmir.

Membership Academics bodies/Societies/ other Professional bodies:

- President J&K Society of Biologists, India (Formation in Process).
- Life Member International Consortium for Scoliosis Genetics (ICSG USA)
- Member National Society of Genetic Counselors, USA
- Member National Geographic Society, USA
- Member American Society of Human Genetics, USA
- Member Human Genome Organisation (HUGO), Singapore
- Life Member Indian Society of Human Genetics, India
- Life member Society for Indian Academy of Medical Genetics, India
- Vice-President and President Society of Human Genetics, GNDU, Amritsar (2001-2003)