BIOGRAPHICAL SKETCH

NAME	POSITION TITLE
Hashem Shahin, PhD	**Assistant Professor of Human Genetics**

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	MM/YY	FIELD OF STUDY
Bethlehem University, Palestine	B.Sc.	01/95	Biology/Chemistry
Tel Aviv University, Tel Aviv, Israel	M.Sc.(Hons)	06/00	Human Genetics
Tel Aviv University, Tel Aviv, Israel	Ph.D.	06/06	Human Genetics

A. Personal Statement

I am currently an Assistant Professor in the Biology Department at Bethlehem University. During my graduate studies, I cloned a novel isoform of the gene *TRIOBP*, which is responsible for sensorineural non-syndromic hearing loss DFNB28 in 9 different Palestinian families.

Since my appointment as an Assistant Professor at Bethlehem University in late 2006, I have worked closely with Drs Moein Kanaan, Mary-Claire King and Tom Walsh as part of a bilateral project between Bethlehem University, and the University of Washington to study more families with hereditary hearing loss. Our joint research has been very rewarding, with the discovery of new deafness genes such as *TRIOBP, GPSM2*, *PTPRQ,* and *TJP2,* as well as many novel alleles in known genes.

I am a very active researcher and always looking for more venues to study more human genetics disorders; such as epilepsy, autism, mental retardation, Charcot-Marie-Tooth disease, cleft lip and palate, microtia and most recently achromatopsia.

B. Positions and Honors

Employment

1995 - 1996 Research Assistant in Biology, Bethlehem University
1997 - 1998 Counselor, Israeli-Palestinian Environmental Summer Camps
1998 - 1999 Project Coordinator, Palestinian-Israeli Environmental Camps
2000 - 2002 Research Associate, Hereditary Research Laboratory, Bethlehem University
2006 - Assistant Professor, Department of Life Sciences, Bethlehem University
2010 - 2011 Acting Director of the Hereditary Research Lab, Bethlehem University
2010 - 2011 Interim Coordinator of the Biotechnology master's Program, Bethlehem University

Honors

1998 - 2006 Canada International Scientific Exchange Program, Graduate Fellowship
2001 10th International Congress of Human Genetics Travel Fellowship, Vienna, Austria
2002 National Academies for Science and Engineering (NAS) Travel Fellowship, Irvine, California
2003 NAS Middle East Organizing Committee, Travel Fellowship, Istanbul, Turkey.
2004 Weizmann Institute of Science and Tel Aviv Univ Conference Fellowships, Jackson Lab, Maine
2006 Young Scientists Program Travel Fellowship, Kyoto, Japan
2008 Bethlehem University Internal Research Grant (2008-2009)
2009 Member of the Scientific and Organizing Committees for the First Conference of Biotechnology Research and Applications in Palestine, Bethlehem University (3-4 April, 2009)
2010 Fogarty International Research Collaboration Award (FIRCA)
2010 Member of Graduate Programs Task Force Committee, Bethlehem University

2011 International Congress of Human Genetics (ICHG) – Developing Countries Travel Award
2012 American Cleft and Craniofacial Association meeting, Furlow Fund Travel Award
2012 Al-Maqdisi Program Award

C. Memberships

- Member of the American Society of Human Genetics
- Member of the Palestinian Cleft Society
- Member of the American Cleft Palate Craniofacial Association
- Member of the Palestinian Forum for Medical Research (PFMR)
- Member of the Advisory board of the Duha municipality, Bethlehem- Palestine

D. Peer-reviewed Publications

Shqueir A and Shahin H. (1995) Nutritive value of popular fast foods. **Bethlehem Univ J** 14:44-48.

Kanaan M and Shahin H. (1998) National survey of methicillin-resistant *Staphylococcus aureus* in Palestinian hospitals: Detection methods, prevalence trends and infection control measures. **Bethlehem Univ J** 17:67.

Sobe T, Vreugde S, Shahin H, Berlin M, Davis N, Kanaan M, Yaron Y, Orr-Urtreger A, Frydman M, Shohat M, Avraham KB. (2000) The prevalence and expression of inherited connexin 26 mutations associatedwith nonsyndromic hearing loss in the Israeli population. **Hum Genet** 106: 50-57. PMID: 10982182

Shahin H, Walsh T, Sobe T, Lynch E, King MC, Avraham KB, Kanaan M. (2002) Genetics of congenital deafness in the Palestinian population: Multiple connexin 26 alleles with shared origins in the Middle East. **Hum Genet** 110, 284-289. PMID: 11935342

Walsh T, Walsh V, Vreugde S, Hertzano R, Shahin H, Haika S, Lee MK, Kanaan M, King MC, Avraham KB. (2002) From flies' eyes to our ears: Mutations in a human class III myosin cause progressive nonsyndromic hearing loss DFNB30. **Proc Natl Acad Sci USA** 99:7518-7523. PMCID: PMC124268

Shahin H, Walsh T, Sobe T, Abu Sa'ed J, Abu Rayan A, Lynch ED, Lee MK, Avraham KB, King MC, Kanaan M. (2005) Mutations in a novel isoform of *TRIOBP* that encodes a filamentous-actin binding protein are responsible for DFNB28 recessive nonsyndromic hearing loss. **Am J Hum Genet** 78:144-152. PMCID: PMC1380212

Del Castillo FJ, Rodriguez-Ballesteros M, Alvarez A, Hutchin T, Leonardi E, de Oliveira CA, Azaiez H, Brownstein Z, Avenarius MR, Marlin S, Pandya A, Shahin H, Siemering KR, Weil D, Wuyts W, Aguirre LA, Martin Y, Moreno-Pelayo MA, Villamar M, Avraham KB, Dahl HH, Kanaan M, Nance WE, Petit C, Smith RJ, Van Camp G, Sartorato EL, Murgia A, Moreno F and Del Castillo I. (2005). A novel deletion involving the connexin-30 gene, del(GJB6-d13s1854), found in trans with mutations in the *GJB2* gene (connexin-26) in subjects with DFNB1 non-syndromic hearing impairment. **J Med Genet**, 42:588-594. PMCID: PMC1736094

Walsh T, Abu Rayan A, Abu Sa'ed J, Shahin H, Shepshelovich J, Lee MK, Hirschberg K, Tekin M, Salhab W, Avraham KB, King MC, Kanaan M. (2006) Genomic analysis of a heterogeneous Mendelian phenotype: Multiple novel alleles for inherited hearing loss in the Palestinian population. **Hum Gen** 2:203-211. PMID: 16460646

Shahin H, Walsh T, Rayyan AA, Lee MK, Higgins J, Dickel D, Lewis K, Thompson J, Baker C, Nord AS, Stray S, Gurwitz D, Avraham KB, King MC, Kanaan M. (2010) Five novel loci for inherited hearing loss mapped by SNP-based homozygosity profiles in Palestinian families. **Eur J Hum Genet** 18:407-413. PMID: 19888295

Shahin H, Rahil M, Abu Rayan A, Avraham KB, King MC, Kanaan M, Walsh T. (2010) Nonsense mutation of the stereociliar membrane protein gene PTPRQ in human hearing loss DFNB84. **J Med Genet** 47:643-645. PMID: 20472657

Sirmaci A, Erbek S, Price J, Huang M, Duman D, Cengiz FB, Bademci G, Tokgoz-Yilmaz S, Hismi B, Ozdag H, Ozturk B, Kulaksizoglu S, Yildirim E, Kokotas H, Grigoriadou M, Petersen MB, Shahin H, Kanaan M, King MC, Chen ZY, Blanton SH, Liu XZ, Zuchner S, Akar N, Tekin M (2010) A truncating mutation in SERPINB6 is associated with autosomal-recessive nonsyndromic sensorineural hearing loss. **Am J Hum Genet** 86:797-804. PMID: 20451170

Walsh T, Pierce SB, Lenz DR, Brownstein Z, Dagan-Rosenfeld O, Shahin H, Roeb W, McCarthy S, Nord AS, Gordon CR, Ben-Neriah Z, Sebat J, Kanaan M, Lee MK, Frydman M, King M-C and Avraham KB (2010) Genomic duplication and over-expression of TJP2/ZO-2 leads to altered expression of apoptosis genes in progressive non-syndromic hearing loss DFNA51. **Am J Hum Genet** 87:101-109. PMCID: PMC2896780

Walsh T, Shahin H, Elkan-Miller T, Lee MK, Thornton AM, Roeb W, Abu Rayyan A, Loulus S, Avraham KB, King MC, Kanaan M. (2010) Whole exome sequencing and homozygosity mapping identify mutation in the cell polarity protein GPSM2 as the cause of nonsyndromic hearing loss DFNB82. **Am J Hum Genet** 87:90-94. PMCID: PMC2896776

Dror AA, Politi Y, Shahin H, Lenz DR, Dossena S, Nofziger C, Fuchs H, Hrabe de Angelis M, Paulmichl M, Weiner S, and Avraham KB. (2010) Calcium oxalate stone formation in the inner ear as a result of an *Slc26a4* mutation. **J Biol Chem** 285:21724-21735. PMCID: PMC2898392

Walsh, V.L., D. Raviv, A.A. Dror, H. Shahin, T. Walsh, M.N. Kanaan, K.B. Avraham, and M.C. King. 2011. A mouse model for human hearing loss DFNB30 due to loss of function of myosin IIIA. ***Mammalian genome** : official journal of the International Mammalian Genome Society*. 22:170-177

Brownstein, Z., L.M. Friedman, H. Shahin, V. Oron-Karni, N. Kol, A.A. Rayyan, T. Parzefall, D. Lev, S. Shalev, M. Frydman, B. Davidov, M. Shohat, M. Rahile, S. Lieberman, E. Levy-Lahad, M.K. Lee, N. Shomron, M.C. King, T. Walsh, M. Kanaan, and K.B. Avraham. 2011. Targeted genomic capture and massively parallel sequencing to identify genes for hereditary hearing loss in middle eastern families. ***Genome biology***. 12:R89.

Doherty, D., A.E. Chudley, G. Coghlan, G.E. Ishak, A.M. Innes, E.G. Lemire, R.C. Rogers, A.A. Mhanni, I.G. Phelps, S.J. Jones, S.H. Zhan, A.P. Fejes, H. Shahin, M. Kanaan, H. Akay, M. Tekin, B. Triggs-Raine, and T. Zelinski. 2012. GPSM2 mutations cause the brain malformations and hearing loss in Chudley-McCullough syndrome. ***American journal of human genetics***. 90:1088-1093.

Yariz, K.O., D. Duman, C.Z. Seco, J. Dallman, M. Huang, T.A. Peters, A. Sirmaci, N. Lu, M. Schraders, I. Skromne, J. Oostrik, O. Diaz-Horta, J.I. Young, S. Tokgoz-Yilmaz, O. Konukseven, H. Shahin, L. Hetterschijt, M. Kanaan, A.M. Oonk, Y.J. Edwards, H. Li, S. Atalay, S. Blanton, A.A. Desmidt, X.Z. Liu, R.J. Pennings, Z. Lu, Z.Y. Chen, H. Kremer, and M. Tekin. 2012. Mutations in OTOGL, encoding the inner ear protein otogelin-like, cause moderate sensorineural hearing loss. ***American journal of human genetics***. 91:872-882

Gulsuner, S., T. Walsh, A.C. Watts, M.K. Lee, A.M. Thornton, S. Casadei, C. Rippey, H. Shahin, V.L. Nimgaonkar, R.C. Go, R.M. Savage, N.R. Swerdlow, R.E. Gur, D.L. Braff, M.C. King, and J.M. McClellan. 2013. Spatial and temporal mapping of de novo mutations in schizophrenia to a fetal prefrontal cortical network. **Cell**. 154:518-529.

E. Research Support: ongoing research support

Al- Maqdisi Program Award Shahin (PI) 2012-2014
The genetic basis of Charcot-Marie –Tooth disease in the Palestinian population
Role: PI

Palestinian Ministry of Higher Education Award Shahin (PI) 2013-2015
Identification of the Genetic Determinants of Achromatopsia Through Genetic Analysis of Palestinian Families Affected with the Disease.
Role: PI