Yen-Pei Christy Chang, Ph.D.
Associate Professor, Department of Medicine
University of Maryland School of Medicine

Date September 31, 2016

Contact Information

Address	660 West Redwood Street, HH445B Baltimore, MD 21201-1009
Phone	410-706-6737
Fax	410-706-1622
E-mail	cchang@medicine.umaryland.edu
Foreign Languages:	Chinese (native), Italian (fluent)

Education And Training

1984-1988 B.S. Biology with minor in Chemistry
Virginia Polytechnic Institute, Blacksburg, VA

1988-1994 Ph.D. Human Genetics and Molecular Biology
The Johns Hopkins University, Baltimore, MD
Thesis Advisors: Kirby D. Smith, Ph.D. and George J. Dover, M.D.
Title: Genetic and Functional Analyses of the F-Cell Production Locus

Post Graduate Education And Training

1995-1997 University of Cagliari, Cagliari, Italy, Post-doctoral research
Mentor: Licinio Contu, M.D.

Employment History

Academic Appointments

1998-2001 Visiting Scientist, Department of Pediatrics
Johns Hopkins University

2001-2005 Research Associate Institute of Genetic Medicine
Johns Hopkins University
Mentor: Aravinda Chakravarti

2005-2010 Assistant Professor Department of Medicine
University of Maryland School of Medicine

2005-2010 Assistant Professor Department of Epidemiology and Public Health
University of Maryland School of Medicine

2010-pres Associate Professor Department of Medicine
University of Maryland School of Medicine

2010-pres Associate Professor Department of Epidemiology and Public Health
University of Maryland School of Medicine

Other Employment

1997-2001 Independent Research, University of Cagliari, Italy
2000-2002 Contributor to OMIM (Online Mendelian Inheritance in Men)

Professional Society Memberships

1990-2005 American Society of Hematology

1990-pres American Society of Human Genetics

2005-pres American Association for the Advancement of Science

Honors and Awards

1991 DuPont Teaching Award for Undergraduate Teaching

1994 Trainee Investigator Award
American Society of Clinical Investigation, American Federation for Clinical Research, and Association of American Physicians

2004 Post-doctoral Presentation Award, American Society of Human Genetics

2009 Recruited Author
Proceedings to the National Academy of Science of the United States of America (PNAS)

2015,2016 Faculty Teacher of the Year Award
Division of Endocrinology, Department of Medicine, UMB

Administrative Service

Institutional Service

University of Maryland School of Medicine

2005-2006 Recruitment and Admission Committee
Graduate Program in Life Sciences (GPILS)

2005-pres Dissertation Proposal Defense and Qualifying Exam Committee
Admission Committee
Curriculum Committee
Human Genetics Ph.D. Program

2005-pres Curriculum Committee
Master program in Genetic Counseling

2007-2011 Speaker Selection Committee Chair
Program in Genetics and Genomic Medicine Program Seminar

2009-2011 Alternate representative for Program in Genetics and Genomic Medicine
School of Medicine Council

2009-pres Research Committee
Division of Endocrinology, Diabetes and Nutrition

2009-pres Faculty Search Committee
Division of Endocrinology, Diabetes and Nutrition

University of Maryland, Baltimore

2009-2012 Scientific Review Committee on Intellectual Property
Office of Research and Development

2007-2011 Organizational Committee
Perspectives in Biomedical Sciences Symposium

2013 Organizer of University of Maryland Campus-wide Symposium on Hypertension

2015-2016 Graduate Research Conference Judge

2016 Molecular Medicine Research Retreat Judge

2014-pres GPILS Advisory Committee

University of Maryland, all campuses

2012 Organizer of University of Maryland Omics Day, Rockville, MD

National and International Services

Ad hoc reviewer for the following journals:
Circulation
Genome Research
Diabetes/Metabolism Research and Review
JAMA
Molecular and Cellular Probe
Physiological Genomics
International Journal of Obesity
BMC Medical Genetics
Diabetes
Human Molecular Genetics
Hypertension
Journal of the American College of Cardiology
PlosOne
Nutrition and Diabetes
Journal of Clinical Hypertension

Grant reviewer for the following organizations:

2006 US Civilian Research and Development Foundation Cooperative Grants Program
2007 Research Grants Council of Hong Kong
2007 Center of Nutritional Research Unit of Maryland
2008 Diabetes UK
2008 Veterans Administration CARA Merit Award
2009-2010 Italian Ministry of Health
2009-2016 NIH: NIDDK, NHLBI
2009 NIH panel member, NIDDK, **Urologic and Kidney Development and Genitourinary Diseases (UKGD)**
2010 NIH panel member, **Mechanism of artificial stiffening and hypertension,** 2010/08 ZHL1 CSR-W (S1) 1

2011 NIH panel member, **Special emphasis panel on vascular biology**
2011/05 ZRG1 VH-A (02)
2012 NIH panel member, **Life after linkage: The future of family studies**
NHLBI RFA: 2012/01 ZHL1 CSR-H (F2) 1
2013 NIH panel member, **Functional Assays to Screen Genomic Hits**
NHLBI RFA HL-13-027 (R21/R33)
2014 NIH panel member, **Functional Assays to Screen Genomic Hits**
NHLBI RFA HL-13-027 (R21/R33, 2nd receipt date)
2014 UMB-UMCP Seed Grant Review
2015 UMB-UMBC Seed Grant Review
2015 NIDDK, T32 Training Program in Diabetes and its Metabolic Applications
2015 NIH panel member, NIDDK, K**idney molecular biology and genitourinary development** (KMBD)
2015 Passano Clinician-Scientist Award
2016 The JHU-UMD Diabetes Research Center, Pilot and Feasibility Program

Education and Professional Development:

2006 Guest speaker
Meet a Scientist Day, Roland Park Elementary and Middle School
2007-pres Speaker in the Women Serious about Science Program
Baltimore Polytechnic Institute
2007-2008 Partnered with high school science teacher to develop classroom activity
Geneticist-Educator Network of Alliances (GENA)
American Society of Human Genetics
2010-2016 Judge, Roland Park Middle School Science Fair
2014-2016 Speaker, Research Career Development Program, University of Maryland School of Medicine
2015 Speaker, University of Maryland Baltimore County, Meyerhoff Scholars Program
2015-2016 Watch TED with Dr. Christy, a monthly workshop with faculty and students
2015 Grant writing coach, NIH sponsored National Research Mentoring Network (NRMN)
2016 NIH Grant Writing Workshop, Virginia Polytechnic Institute and State University

Teaching Services

Direct Teaching

1990 Course title: Molecular and Cellular Biology
Johns Hopkins University
Teaching Assistant
Student: Undergraduate students (~20 per small group)
Contact hour: 4 hours per week for 1 semester

1991 Course title: Developmental Biology
Johns Hopkins University
Teaching Assistant
Student: Undergraduate students (~20 per small group)
Contact hour/week: 5 hours per week for 1 semester

2005-2016 Course title: Human Genetics I (HGEN 601)
University of Maryland School of Medicine
Lecture titles:
Molecular basis of human diseases: 2005, 2007

Non-Mendelian genetics: 2005, 2007, 2009-2013
Hemoglobinopathies: from DNA to society: 2008-2013
Molecular techniques for human geneticists: 2008-2013 (3-4 lectures)
Student: Graduate students in various Master and PhD programs.
Class size: 10-15
Contact hours: 1.5 hours per lecture

2006 Population Aspects of Human Genetics (GPLS 732)
University of Maryland School of Medicine
Lecture title: From linkage / association signal to functional variants and pathophysiology
Student: Graduate students in various Master and PhD programs.
Class size: ~10
Contact hours: 1 hour per lecture

2006-2016 Course title: Genetic Epidemiology (GPLS 711/ PREV 706)
University of Maryland School of Medicine
Section leader: 2008
Lecturer: 2006, 2008-2013
Lecture titles:
Human molecular genetics: 2006
Data quality and impact on genetic analysis: 2006, 2008
Genetics of hypertension: 2006
Genotyping and expression array analysis, 2008
Gene regulation: 2009-2015
Genetic variants: 2015
Student: Graduate students in various Master and PhD programs.
Class size: 10-15
Contact hours: 1.5 hour per lecture

2006-2016 Course title: Mechanisms in Biomedical Sciences (GPLS 601)
Graduate Program in Life Sciences Core course
University of Maryland School of Medicine
Section leader: 2007-2009, 2013-2016
Lecturer: 2006-2016
Faculty mentor for journal presentation: 2006-2009
Lecture titles:
Non-Mendelian genetics: 2006, 2008, 2013-2016
Functional validation of disease mutations: 2006-2016
The organization of the human genome and gene families: 2007-2016
Genetic variation and the molecular basis of diseases: 2007-2014, 2016
Hemoglobinopathies: from DNA to society: 2006-2016
Student: Graduate students in various Master and PhD programs.
Class size: 50-75
Contact hours: 1 hour per lecture and 1.5 hours per journal presentation

2007-2011 Course title: Pathophysiology & Therapeutic I (MSPR 521)
University of Maryland School of Medicine
Small group leader
Student: Second year medical school students
Class size: ~15

Contact hours: 1.5 hours

2012-2014 Course title: Translational MS Core course (GPLS 600)
University of Maryland School of Medicine
Lecture title: Genomic organization and gene families
Student: First year master program students
Class size: 5-10
Lecture hours: 1 hour (online)

2012-2014 Course title: Role of Personal Genomes in Medicine (MEDC 540)
Lecture title: Advanced topics in genetics and genomics
Student: Second year medical school students
Class size: 10-20
Contact hours: 2 hours

2013-2016 Course title: Cell and Molecular Biology (MSPR 513)
Lecture title: Genetic variations: functionally neutral, disease-associated, and disease causing
Student: First year medical school students
Class size: 150
Contact hours: 2 hours

2015-2016 Course title: Responsible Conduct of Research (CIPP 907)
Student: graduate students in Masters of Science in clinical research
Small group discussion title: The use of human subjects in research
Class size: 10
Contact hours: 1.5 hours

2016- Course title: Foundations of Disease (MSPR 523)
Student: Second year medical school students
Small group discussion title: Pharmacogenomics,
Class size: 25
Contact hours: 2 hours

2016 Course title: Molecular Epidemiology: PREV 780
Student: Graduate student
Lecture titles: Gene regulation and Experimental Validation
Class size: 25
Contact hours: 3 hours

Course Curriculum Development

2005-pres Genetic Epidemiology (GPLS 711)
University of Maryland School of Medicine

2005-pres Human Genetics I (HGEN 601)
University of Maryland School of Medicine

2007-2009, Section leader
2013-pres Graduate Program in Life Sciences Core course (GPLS 601)
University of Maryland School of Medicine

Trainees

1996-1998 Roberto Littera, M.D. Predoctoral student in Medicine and Surgery
School of Medicine, University of Cagliari, Italy
Thesis title: The distributions of F-cells in normal population and in β-thalassemia carriers of Sardinia
Currently a hematologist at Centro Regionale Trapianti, Ospedale 'R. Binaghi', Cagliari, Italy.

1996-1997 Raffaela Garau, Post-Laurea Training
School of Medicine, University of Cagliari, Italy
Project title: Analysis of mutations and polymorphisms in β-globin complex

1998-2000 Paola Asili, Post-Laurea Training
School of Medicine, University of Cagliari, Italy
Project title: Hemodynamics and chemotherapy
Currently the Technical Director in the Central Molecular Biology, Department for Crime Prevention of the *Polizia Scientifica Italiana*, Rome, Italy.

2005-2009 Ying Wang, Ph.D. Predoctoral student, Human Genetics
Thesis title: Genomewide association study of blood pressure
Currently associate director of molecular oncology, Laboratory Coporation of America, Research Triangle Park, NC

2006-2008 Kavita Bhalla, Ph.D. Postdoctoral fellowship
Project title: Identification of an element for polyadenylation in *ATP1B1*
Currently a reseach associate in the lab of Dr. Geoffrey Girnun, University of Maryland School of Medicine

2008 Tiffany Scharadin, Ph.D., Predoctoral rotation student, Molecular Medicine

2008 Adebola Ajao, Ph.D. Predoctoral rotation student, Epidemiology

2009-2011 May Montasser, Ph.D. Postdoctoral fellowship
Project title: Genetic epidemiology of hypertension
Currently an instructor in the Division of Endocrinology, UMB

2010 Shadi Zimbeeli, Ph.D. Predoctoral rotation student, Epidemiology

2010 Jennifer Ginsberg, M.S., Predoctoral rotation student, Epidemiology

2011-2012 Sruti Chandrasekran, M.D., Clinical fellowship in Endocrinology
Currently an endocrinologist, Chennai, Tamil Nadu, India

2011-2012 Megana Prasad, Ph.D., Postdoctoral fellowship
Project: title: Characterization of 3'UTR variants in *ATP1B1*
Currently a scientific writer, Medenronet, Strasbourg, France

2007-2012 Sarah Dorff, Ph.D., Predoctoral student, Molecular Medicine
Thesis title: Characterization of coding variants in *STK39*
Currently a postdoctoral fellow, FDA

2013- Carlo Mercado, Predoctoral Ph.D. thesis student, Human Genetics

2014-2015 Yoon Jeong Jang, Master student, Molecular Medicine

2014- Alicia Howard, Ph.D., Postdoctoral fellowship

Grant Support

Active

09/01/12 – 06/30/17
Chang (Co-PI of P/F project with C. Renn, 5%)
"Genetics of Experimental Pain in the Amish"
P30 title: "Center for the Genomics of Pain", Pis=Dorsey
NIH, 1 P30 NR014129A-01
Annual direct cost of P/F project: $62,476
Total direct cost of P/F project: $125,952

9/20/2012 – 6/30/2018
Chang (Co-Inv, 5% in years 3 and 4; PI - Hannenhalli)
"Conundrums in Transcriptional Regulation"
NIH, 1R01GM100335
Annual direct cost of subcontract: $213,172
Total direct cost of subcontract: $681,540
Role: Experimental design and data analysis

08/01/2007 – 03/31/2018
Chang (PI, 50%)
"Genetic and functional analyses of hypertension susceptibility genes"
NIH, 2R01HL088120-05A1
Annual direct cost: $370,001
Total direct cost: $1,692,854

07/01/2013-06/30/2017
Chang (Co-PI with Mitchell, 20%)
"Identification and Functional Characterization of a Gene Influencing LDL-C on 5q"
NIH, R01 HL121007-01
Annual direct cost: $276,108
Total direct costs: $1,080,125

07/01/2016-06/30/2020
Chang (Co-investigator, 3%, PI-Colloca)
"Chronic Orofacial Pain: Genetics, Cognitive-Emotional Factors
NIH 1R01DE025946-01
Annual direct cost: $334,576
Total direct costs: $513,574

Concluded

04/01/2014-03/31/2016
Chang (Co-PI with Gould, 12%)
"Regulatory Role of CACNA1C Intronic DNA Variation Relevant to Psychiatric Disease"
NIH 1R21MH103847-01
Annual direct cost: $150,000

Total direct costs: $300,000

9/15/2013-9/14/2015
Chang (Co-Inv, 1%; PI - Gould)
"Determining genomic underpinnings of susceptibility conferred by mood disorder risk gene CACNA1C"
National Alliance for Research on Schizophrenia and Depression (NARSAD) Independent Investigator Award 20230
Annual Direct Costs: $46,300
Total Direct Costs: $92,600
Role: Experimental design and data analysis

09/01/98 – 08/31/00
Chang (PI, 90%)
"Identification of Genes Involved in Hemoglobin F Production"
Italian Telethon Foundation, E665
Annual direct cost: ~ US$60,000
Total direct costs: ~ US$120,000

03/01/06 – 02/28/11
Chang (Co-Inv, 10%; PI – McCarthy)
"The International 1q Type 2 Diabetes Consortium"
NIH/NIDDK, R01DK073490 (Oxford subcontract)
Annual direct cost: $175,641
Total direct costs: $878,203
Role: Data analysis

01/01/07 – 11/15/07
Chang (Co-Inv, 7%; PI – Robinson)
"Identifying Phosphodiesterase Type IV D (PDE4D) genetic associations with cardiovascular disease"
Other Tobacco Research Diseases
Annual direct cost: $50,000
Role: Experimental design and data analysis

07/01/08 – 06/30/09
Chang (Co-Inv, 5%, PI – Steinle)
"Cloning a Blood Pressure Gene on Human Chromosome 2q32.3"
NIH/NHLBI, R01 HL076768
Annual direct cost: $281,352
Total direct costs: $1,406,762
Role: Experimental design and data analysis

08/01/07 – 03/31/13
Chang (PI, 50%)
"Genetic and functional analyses of chromosome 1 hypertension susceptibility genes"
NIH, R01HL088120
Annual direct cost: $250,000
Total direct costs: $1,000,000

09/01/08-08/31/09
Chang (PI, 20%)
"The relationship between STK39, salt sensitivity, and HCTZ-induced BP response"
Clinical Nutritional Research Unit of Maryland
Pilot and Feasibility Grant
Annual direct cost: $21,000

Total direct costs: $21,000

09/30/09-09/29/11 — Chang (Co-Inv, 10%; PI - Welling)
"Multigene kinase network, kidney transport and salt in essential hypertension"
NIH/NIDDK, RC1DK086817-01
Annual direct cost: $340,000
Total direct costs: $673,204
Role: Experimental design and data analysis

9/30/09 - 07/31/12 — Chang (PI, 30%)
"The relationship between STK39, salt sensitivity, and HCTZ-induced BP response
NIH/NIDDK, R21DK084566-01
Annual direct cost: $250,000
Total direct costs: $500,000

06/01/11-05/31/12 — Chang (Co-PI, with Sridhar Hannenhalli)
"Combining Genome-Wide Association Studies, Comparative Genomics and Genomic Annotation to Understand the Genetic Basis of Complex Diseases"
UMB-UMCP Seed Grant, Project ID: 10008197
Annual direct cost: $75,000
Total direct costs: $75,000

Publications

Peer-reviewed journal articles

1. Dover GJ, Smith KD, Chang YC, Purvis S, Mays A, Meyers DA, et al. Fetal hemoglobin levels in sickle cell disease and normal individuals are partially controlled by an X-linked gene located at Xp22.2. **Blood**. 1992;80(3):816-24.
2. Chang YP, Smith KD, Dover GJ. Dinucleotide repeat polymorphisms at the DXS85, DXS16 and DXS43 loci. **Hum Mol Genet**. 1994;3(6):1029.
3. Chang YC, Smith KD, Moore RD, Serjeant GR, Dover GJ. An analysis of fetal hemoglobin variation in sickle cell disease: the relative contributions of the X-linked factor, beta-globin haplotypes, alpha-globin gene number, gender, and age. **Blood**. 1995;85(4):1111-7.
4. Chang YP, Maier-Redelsperger M, Smith KD, Contu L, Ducroco R, de Montalembert M, et al. The relative importance of the X-linked FCP locus and beta-globin haplotypes in determining haemoglobin F levels: a study of SS patients homozygous for beta S haplotypes. **Br J Haematol**. 1997;96(4):806-14.
5. Chang YP, Littera R, Garau R, Smith KD, Dover GJ, Iannelli S, et al. The role of heterocellular hereditary persistence of fetal haemoglobin in beta(0)-thalassaemia intermedia. Br J Haematol. 2001;114(4):899-906.
6. Littera R, La Nasa G, Derchi G, Cappellini MD, Chang CY, Contu L. Long-term treatment with sildenafil in a thalassemic patient with pulmonary hypertension. **Blood**. 2002;100(4):1516-7.
7. Zhu X, Chang YP, Yan D, Weder A, Cooper R, Luke A, et al. Associations between hypertension and genes in the renin-angiotensin system. **Hypertension**. 2003;41(5):1027-34.

8. Zhu X, Yan D, Cooper RS, Luke A, Ikeda MA, Chang YP, et al. Linkage disequilibrium and haplotype diversity in the genes of the renin-angiotensin system: findings from the family blood pressure program. **Genome Res**. 2003;13(2):173-81. PMCID: 420361.
9. Armanios M, Chen JL, Chang YP, Brodsky RA, Hawkins A, Griffin CA, et al. Haploinsufficiency of telomerase reverse transcriptase leads to anticipation in autosomal dominant dyskeratosis congenita. **Proc Natl Acad Sci U S A**. 2005;102(44):15960-4. PMCID: 1276104.
10. Gu CC, Chang YP, Hunt SC, Schwander K, Arnett D, Djousse L, et al. Haplotype association analysis of AGT variants with hypertension-related traits: the HyperGEN study. **Hum Hered**. 2005;60(3):164-76. PMID:16352906 http://content.karger.com/produktedb/produkte.asp?DOI=90118&typ=pdf
11. Rasmussen-Torvik LJ, North KE, Gu CC, Lewis CE, Wilk JB, Chakravarti A, Chang YP, Miller MB, Li N, Devereus RB, Arnett DK. A population association study of angiotensinogen polymorphisms and haplotypes with left ventricular phenotypes. **Hypertension**. 2005;46(6):1294. PMID:16286570 http://hyper.ahajournals.org/content/46/6/1294.full.pdf+html
12. Young JH, Chang YP, Kim JD, Chretien JP, Klag MJ, Levine MA, et al. Differential susceptibility to hypertension is due to selection during the out-of-Africa expansion. **PLoS Genet**. 2005;1(6):e82. PMCID: 1342636.
13. Chang YP, Kim JD, Schwander K, Rao DC, Miller MB, Weder AB, Cooper RS, Schork NJ, Province MA, Morrison AC, Kardia SL, Quertermous T, Chakravarti, A. The impact of data quality on the identification of complex disease genes: experience from the Family Blood Pressure Program. **Eur J Hum Genet**. 2006;14(4):469-77. PMID: 16493446. http://www.nature.com/ejhg/journal/v14/n4/full/5201582a.html
14. Wu X, Kan D, Province M, Quertermous T, Rao DC, Chang C, Mosley TH, Curb D, Boerwinkle E, CooperRS. An updated meta-analysis of genome scans for hypertension and blood pressure in the NHLBI Family Blood Pressure Program (FBPP). **Am J Hypertens**. 2006;19(1):122-7.
15. Chang YP, Liu X, Kim JD, Ikeda MA, Layton MR, Weder AB, Cooper RS, Kardia SL, Rao DC, Hunt SC, Luke A, Boerwinkle E, Chakravarti A. Multiple genes for essential-hypertension susceptibility on chromosome 1q. **Am J Hum Genet.** 2007;80(2):253-64. PMCID: 1785356.
16. Rampersaud E, Damcott CM, Fu M, Shen H, McArdle P, Shi X, Shelton J, Yin J, Chang YP, Ott SH, Zhang L, Zhao Y, Mitchell BD, O'Connell J, Shuldiner AR. Identification of novel candidate genes for type 2 diabetes from a genome-wide association scan in the Old Order Amish: evidence for replication from diabetes-related quantitative traits and from independent populations. **Diabetes**. 2007;56(12):3053-62. PMID: 21059979. http://archinte.ama-assn.org/cgi/content/full/170/20/1850
17. McArdle PF, Parsa A, Chang YP, Weir MR, O'Connell JR, Mitchell BD, Shuldiner AR. Association of a common nonsynonymous variant in GLUT9 with serum uric acid levels in Old Order Amish. **Arthritis Rheum.** 2008;58(9):2874-81. PMCID: 2779583.
18. McArdle PF, Rutherford S, Mitchell BD, Damcott CM, Wang Y, Ramachandran V, Ott S, Chang YP, Levy D, Steinle N.Nicotinic acetylcholine receptor subunit variants are associated with blood pressure; findings in the Old Order Amish and replication in the Framingham Heart Study. **BMC Med Genet**. 2008;9:67. PMCID: 2478679.
19. Mitchell BD, McArdle PF, Shen H, Rampersaud E, Pollin TI, Bielak LF, et al. The genetic response to short-term interventions affecting cardiovascular function: rationale and design of the Heredity and Phenotype Intervention (HAPI) Heart Study. **Am Heart J**. 2008;155(5):823-8. PMCID: 2443415.
20. Wang Y, O'Connell JR, McArdle PF, Wade JB, Dorff SE, Shah SJ, Shi X, Pan L, Rampersaud E, Shen H, Kim JD, Subramanya AR, Steinle NI, Parsa A, Ober CC,

Welling PA, Chakravarti A, Weder AB, Cooper RS, Mitchell BD, Shuldiner AR, Chang YP. From the Cover: Whole-genome association study identifies STK39 as a hypertension susceptibility gene. **Proc Natl Acad Sci U S A**. 2009;106(1):226-31. PMCID: 2629209.

21. Wang Y, Samuels JF, Chang YC, Grados MA, Greenberg BD, Knowles JA, McCracken JT, Rauch SL, Murphy DL, Rasmussen SA, Cullen B, Hoehn-Saric R, Pinto A, Fyer AJ, Piacentini J, Pauls DL, Bienvenu OJ, Riddle M, Shugart YY, Liang KY, Nestadt G. Gender differences in genetic linkage and association on 11p15 in obsessive-compulsive disorder families. **Am J Med Genet B Neuropsychiatr Genet**. 2009;150B(1):33-40.
http://onlinelibrary.wiley.com/doi/10.1002/ajmg.b.30760/pdf
22. Shen H, Damcott CM, Rampersaud E, Pollin TI, Horenstein RB, McArdle PF, Peyser PA, Bielak LF, Post WS, Chang YP, Ryan KA, Miller M, Rumberger JA, Sheedy PF, Shelton J, O'Connell JR, Shuldiner AR, Mitchell BD. Familial defective apolipoprotein B-100 and increased low-density lipoprotein cholesterol and coronary artery calcification in the Old Order Amish. **Arch Intern Med.** 2010;170(20):1850-5.
http://archinte.ama-assn.org/cgi/reprint/170/20/1850
23. Welling PA, Chang YP, Delpire E, Wade JB. Multigene kinase network, kidney transport, and salt in essential hypertension. **Kidney Int**. 2010;77(12):1063-9.
http://www.nature.com/ki/journal/v77/n12/pdf/ki2010103a.pdf
24. Ehret GB, Munroe PB, Rice KM, Bochud M, Johnson AD, Chasman DI, Smith AV, Tobin MD, …, Chang YP, O'Connell JR, Steinle NI, Grobbee DE, Arking DE, Kardia SL, Morrison AC, Hernandez D, …,Abecasis GR, Chakravarti A, Elliott P, van Duijn CM, Newton-Cheh C, Levy D, Caulfield MJ, Johnson T. Genetic variants in novel pathways influence blood pressure and cardiovascular disease risk. **Nature.** 2011; 478(7367):103-9. PMID:21909115.
http://www.nature.com/nature/journal/v478/n7367/full/nature10405.html
25. Fox ER, Young JH, Li Y, Dreisbach AW, Keating BJ, Musani SK, Liu K, Morrison AC, Ganesh S, … Chang YP, O'Connell JR, Steinle NI, … Boerwinkle E, Boehnke M, Larson MG, Jarvelin MR, Psaty BM, Abecasis GR, Elliott P, van Duijn CM, Newton-Cheh C. Association of genetic variation with systolic and diastolic blood pressure among African Americans: the Candidate Gene Association Resource study. **Hum Mol Genet.** 2011;20(11):2273-84. PMCID: 3090190.
26. Parsa A, Chang YP, Kelly RJ, Corretti MC, Ryan KA, Robinson SW, Gottlieb SS, Kardia SL, Shuldiner AR, Liggett SB. Hypertrophy-associated polymorphisms ascertained in a founder cohort applied to heart failure risk and mortality. **Clin Transl Sci**. 2011;4(1):17-23.PMID: 21348951.
27. Montasser ME, Douglas JA, Roy-Gagnon M-H, Van Hout CV, Weir MR, Vogel R, Parsa A, Steinle NI, Snitker S, Brereton HN, Chang YP, Shuldiner AR, Mitchell BD. Determinants of blood pressure response to low salt intake in a healthy adult population. **J Clin Hyperten** 13(11):795-800, 2011.
28. Nestadt G, Wang Y, Grados MA, Riddle MA, Greenberg BD, Knowles JA, Fyer AJ, McCracken JT, Rauch SL, Murphy DL, Rasmussen SA, Cullen B, Piacentini J, Geller D, Pauls D, Bienven OJ, Chen Y, Liang KY, Goes FS, Pulver AE, Yao Y, Valle D, Samuels JF, Chang YC, Homeobox Genes in Obsessive-Compulsive Disorder, **American Journal of Medical Genetics Part B: Neuropsychiatric Genetics**. 2011, 159B(1):53-60, PMID: 22095678
29. Wilmot B, Voruganti S, Chang YP, Fu Y, Chen Z, Taylor HA, Wilson JG, Gipson T, Vallabh S, Umans J, Flessner MF, Hitzemann R, Shuldiner AR, Comuzzie A, McWeeney S, Zager P, MacCluer J, Cole S, and Cohen DM, Heritability of systemic water balance: Evidence for sex- and ethnic-specific effects, **Physiological Genomics** 44(3):220-8, 2012, PMID: 22186255

30. Ganesh SK, Tragante V, Guo W, Guo Y, Lanktree MB, Smith EN, Johnson T, Castillo BA, Barnard J, Baumert J, Y.P Chang, et al., Loci influencing blood pressure identified using a cardiovascular gene-centric array, **Hum Mol Genet**. 2013;22(8):1663-78
31. Sahu AD, Aniba R, Chang YC and Hannenhalli S, Epigenomic model of cardiac enhancers with application to genome wide association studies, **Pac Symp Biocomput**. 2013:92-102
32. Prasad M, Bhalla K, Pan Z, O'Connell J, Weder A, Chakravarti A, Tian B, Chang YC, A polymorphic 3'UTR element in ATP1B1 regulates alternative polyadenylation and is associated with blood pressure. **PLoS ONE** 2013:8(10): e76290
33. Tragante V, Michael R Barnes MR, Ganesh SK… Chang YC, et al, Gene-centric meta-analysis in 87,736 individuals of European ancestry identifies multiple blood pressure related loci, **Am J Hum Genet.** 2014 Mar 6;94(3):349-60
34. O'Hare EA, Wang X, Montasser, ME, Chang, YC, Mitchell BD, and Zaghloul NA, Disruption of ldlr causes increased LDL-cholesterol and vascular lipid accumulation in a zebrafish model of hypercholesterolemia, **Journal of Lipid Research,** Nov 2014;55(11):2242-53
35. Roy A, Donnelly BF, Ronzaud C, Gong F, Chang YC, Butterworth MB, Pastor-Soler N, Hallows KR, Staub O, and Subramanya AR' Alternatively spliced proline-rich cassettes link WNK1 to aldosterone action, **J Clin Invest**. 2015;125(9):3433–3448.

Published Abstracts

1. Fetal Hemoglobin Levels in Adults is Determined in part by a Gene on the X-chromosome, Y.C. Chang, K.D. Smith, S. Purvis, A. Mays, D.A. Meyers, C. Shells, G. Serjeant, and G.J. Dover, **Platform session**: Linkage Analysis of Complex Trait Workshop, Eighth International Congress of Human Genetics, Baltimore, USA, October, 1991
2. The X-linked F Cell Production Locus: Genetic Mapping and Role in Fetal Hemoglobin Production, G.J. Dover, Y.C. Chang, K.D. Smith, S. Purvis, A. Mays, D.A. Meyers, C. Shells, and G. Serjeant, Ninth Conference on Hemoglobin Switching, June, 1994
3. The X-linked F Cell Production Locus: Genetic Mapping and Role in Fetal Hemoglobin Production, Y.C. Chang, K.D. Smith, S. Purvis, A. Mays, D.A. Meyers, C. Shells, G. Serjeant, and G.J. Dover, **Platform session**: Linkage Mapping and Polymorphisms, 44th Annual Meeting of the American Society of Human Genetics, Montreal, Canada, October, 1994
4. A Genetic Study of Wilson's Disease in Sardinia, S. Orru, A. Loizedda, Y.C. Chang, C. Carcassi, L. Contu, Annual Conference of the Italian Association of Biochemistry, Cagliari, Italy, June, 1995
5. The Relative Importance of the X-Linked FCP Locus and a-globin Haplotype in Determining Hemoglobin F Levels: A Study of SS patients Homozygous for β^S Haplotypes, Y.C. Chang, K.D. Smith, R. Moore, G. Serjeant, and G.J. Dover, Hemoglobinopathies & Thalassemias session, Annual Meeting of the American Society of Hematology, Seattle, USA, December, 1995
6. The X-linked F cell Production Locus: Genetic Analysis and Relative Importance in Determing Hemglobin F levels in Adults, G.J. Dover, Y.C. Chang, K.D. Smith, S. Purvis, A. Mays, D.A. Meyers, C. Shells, and G. Serjeant, Tenth Conference on Hemoglobin Switching, Orcas Island, June, 1996.
7. The X-linked F cell Production Locus: Genetic Mapping and Analysis of Candidate Genes, Y.C. Chang, K.D. Smith, G.R. Serjeant, and G.J. Dover, and L. Contu, XI National Conference of the Italian Federazione for the Studies of Hereditary Disorders (FISME), Spoletto, Italy, October, 1996

8. The X-linked F cell Production Locus: Genetic Mapping and Analysis of Candidate Genes, Y.C. Chang, K.D. Smith, G. R. Serjeant, G. J. Dover, and L. Contu, Third International Symposium on Bone Marrow Transplantation in Thalassemia, Pesaro, Italy, September, 1996.
9. The X-linked F-Cell Production Locus, K.D. Smith, Y.C. Chang, G.R. Serjeant, G.J. Dover, 6th International Conference on Thalassaimia and the Heamoglobinopathies, Malta, April, 1997
10. Identification of Genes Involved in Hemoglobin F Production. Y.C. Chang, R. Littera, R. Garau, K.D. Smith, G.J. Dover, and L. Contu, First National Congress of the Italian Society of Human Genetics (SIGU), Spoletto, Italy, September, 1998.
11. Molecular Characterization of F-cell Production. Y. C. Chang, R. Littera, R. Garau, K. D. Smith, G. J. Dover, and L. Contu, Scientific Convention of the Italian Telethon Foundation, Rome, Italy, November 1998
12. The Role of Heterocellular Hereditary Persistence of Fetal Hemoglobin in b0-Thalassemia Intermedia. Y.C. Chang, R. Littera, R. Garau, K.D. Smith, G.J. Dover, E. Cacace, S. Iannelli, and L. Contu, **Platform session**. The 7th International Conference on Thalassemia and the Haemoglobinopathies, Bangkok, Thailand, June, 1999
13. Identification Of Genes Involved In Hemoglobin F Production, Y.C. Chang, R. Littera, R. Garau, K.D. Smith, G.J. Dover, and L. Contu, Scientific Convention of the Italian Telethon Foundation, Rimini, Italy November, 1999
14. Identification Of Genes Involved In Hemoglobin F Production, Y.C. Chang, R. Littera, P. Asili, M.T. Ionta, B. Massida, K.D. Smith, G.J. Dover, and L. Contu, "Scientific Convention of the Italian Telethon Foundation, Rimini, Italy, Novembre 12-14, 2000
15. Identification Of Genes Involved In Hemoglobin F Production, Y.C. Chang, R. Littera, P. Asili, M.T. Ionta, and L. Contu, Scientific Convention of the Italian Telethon Foundation, Riva del Garda, Italy, November 18-20, 2001
16. Converging evidence for an essential hypertension susceptibility locus on chromosome 1q. Y. Chang, D.J. Kim, M. Ikeda, X. Liu, A. Mitchell, S. Gillespie, M. Kenton, A. Weder, R. Cooper, A. Luke, A. Chakravarti, 53th Annual Meeting of the American Society of Human Genetics, **Platform session**: Complex Trait, Lung, Heart and Metabolism, Los Angeles, California, November 4-8, 2003
17. G Protein β3 Subunit 825T variation is correlated with latitude and climate: Is selection a source of differential susceptibility to hypertension? J. H. Young, Y-P. Chang, J-P. Chretien, M. Ikeda, J. Kim, M.J. Klag, M.A. Levine, A. Chakravarti, 53th Annual Metting of the American Society of Human Genetics, Los Angeles, California, November 4-8, 2003
18. Susceptibility Locus For Essential Hypertension On Chromosome 1q. Genome Scan Linkage Results From The GenNet Network Of The NHLBI Family Blood Pressure Program, Y.C. Chang, D.J. Kim, A. Mitchell, X. Liu, A. Weder, R. Cooper, A. Chakravarti, 57th Annual Fall Conference and Scientific Sessions of the Council for High Blood Pressure Research, American Heart Association, **Oral Session**: Genetics of Hypertension, Washington D.C., September 23-26, 2003
19. Multiple essential hypertension susceptibility genes on chromosome 1q, Y. Chang, X. Liu, M. Ikeda, J. Kim, M. Layton, R. Cooper, A. Weder, A. Chakravarti. 54th Annual Meeting of the American Society of Human Genetics, Toronto, **Platform Session**: Hypertension and Atherosclerotic Diseases, Ontario, Canada, Oct 28, 2004
20. Genetic variation in the endothelin converting enzyme like 1 gene is associated with type 2 diabetes (T2DM). Y, Wang, X. Shi, P.F. McArdle, C.M. Dancott, Y.C. Chang, A.R. Shuldiner, B.D. Mitchell, N.I. Steinle, 56th Annual Meeting of the American Society of Human Genetics, New Orleans, Louisiana, Oct 9-13, 2006
21. ATP1B1, a hypertension candidate gene, has a conserved and polymorphic 3'UTR element that regulates the selective polyadenylation of its mature mRNA, K. Bhalla, Z.

Pan, A. Chakravarti, B. Tian, Y.C. Chang. 57th Annual Meeting of the American Society of Human Genetics, San Diego, California, October 23-27, 2007

22. Positional cloning of genes influencing blood pressure on chromosome 2q31-q36 in the Old Order Amish, P. McArdle, Y. Wang, S. Rutherford, I.G. Imumorin, J. R. O'Connell, S.H. Ott, L.J. Reinhart, T.I. Pollin, C. Damcott, Y.C. Chang, B.D. Mitchell and A.R. Shuldiner, N.I. Steinle, 57th Annual Meeting of the American Society of Human Genetics, San Diego, California, October 23-27, 2007.
23. Whole-genome association study in the Old Order Amish identifies STK39 as a novel hypertension susceptibility gene, Y. Wang, Ying, P.F. McArdle, H. Shen, E. Rampersaud, J. Shelton, X. Shi, N.I. Steinle, B.D. Mitchell and A.R. Shuldiner, Y. C. Chang, 57th Annual Meeting of the American Society of Human Genetics, **Platform Session**: Cardiovascular Genetics, San Diego, California, October 23-27, 2007.
24. Common variants in STK39 are associated with blood pressure levels, Y. Chang, Y. Wang, J. O'Connell, P. McArdle, J. Wade, S. Dorff, S. Shah, X. Shi, L. Pan, E. Rampersaud, H. Shen, J. Kim, A. Subramanya, N. Steinle, P. Welling, C. Ober, A. Weder, A. Chakravarti, B. Mitchell, A. Shuldiner, 58th Annual Meeting of the American Society of Human Genetics, **Platform Session**: Cardiovascular Genetics and Blood Biomarkers, Philadelphia, Pennsylvania, November 11-15, 2008.
25. Variation in ABCA12 is associated with blood pressure and partially account for linkage on 2q in the Old Order Amish. Y, Wang, P.F. McArdle, X. Shi, C.M. Damcott, Y.C. Chang, B.D. Mitchell, A.R. Shuldiner, N.I. Steinle, 58th Annual Meeting of the American Society of Human Genetics, Philadelphia, Pennsylvania, November 11-15, 2008.
26. Functional characterization of blood pressure-associated common variants in STK39. Y. Chang, J. Chen, Y. Wang, J. Wade, S. Dorff, J. O'Connell, A. R. Shuldiner. Experimental Biology 2009, New Orleans, Louisiana, April 18-22, 2009
27. Do GxG interactions account for the blood pressure linkage peak on chromosome 2 in the Old Order Amish? M.E. Montasser, Y.C. Chang, Y.Wang, J.R. O'Connell A.R. Shuldiner, B.D. Mitchell, N.I. Steinle. 60th Annual Meeting of the American Society of Human Genetics, Poster Session: Statistical Genetics and Genetic Epidemiology, Washington, DC, November 2-6, 2010
28. Functional characterization of a conserved intronic element in hypertension- associated gene, STK39. J. Chen, S. Dorff, Y. Chang, 60th Annual Meeting of the American Society of Human Genetics, Poster Session: Gene Structure and Gene Product Function, Washington, DC, November 2-6, 2010.
29. Alternatively spliced PY cassette exons in *WNK1* decrease stability by enhancing sensitivity to the aldosterone-regulated E3 ubiquitin ligase Nedd4-2, A. Roy, S. Khadem Avin C. Snyder*, Y. C. Chang, and Arohan R. Subramanya, Annual Meeting of the American Society of Nephrology, Philadelphia, PA, November 8-13, 2011
30. A polymorphic T-rich element in ATP1B1 is associated with blood pressure and regulates alternative polyadenylation. M. Prasad, K. Bhalla, Z. Pan, J. O'Connell, A. Weder, A. Chakravarti, B. Tian, and Y.C. Chang, University of Maryland Omics Day, Shady Grove, Maryland, May 22, 2012
31. A polymorphic T-rich element in ATP1B1 is associated with blood pressure and regulates alternative polyadenylation. M. Prasad, K. Bhalla, Z. Pan, J. O'Connell, A. Weder, A. Chakravarti, B. Tian, and Y.C. Chang, American Heart Association Basic Cardiovascular Sciences, New Orleans, LA, July 23-26, 2012
32. Functional Analysis of L-type Calcium 2+ channel gene *CACNA1C* in Mood Disorder Pathophysiology, S. S. Bhat, R. Smith, M. Prasad, Y.P. Chang, and T. D Gould, World Congress of Psychiatric Genetics, Boston, MA, October 17-21, 2013
33. Alternative promoter usage in *STK39* leads to distinct transcripts with human-specific 5'UTRs but identical protein isoforms as in mice. Y.C. Chang, C.J. Mercado, X. Wang,

Annual Meeting of the American Society of Human Genetics, Poster Session: Genome structure, variation and function, Baltimore, MD, October 6-10, 2015

34. Coordinated regulation of splicing events within *SLC12A3* and implications to Gitelman Syndrome. C, Mercado, X. Wang, Y.C. Chang, Annual Meeting of the American Society of Human Genetics, Poster Session: Molecular Basis of Mendelian Disorders, Baltimore, MD, October 6-10, 2015
35. Allele-specific enhancers provide functional explanations for GWAS signals between HDL cholesterol levels and LCAT and ABCA1, A.D. Howard, X. Wang, M. Prasad, A.D. Sahu, R. Aniba, S. Hannenhalli, Y.C. Chang, Annual Meeting of the American Society of Human Genetics, Poster Session: Complex Traits and Polygenic Disorders, October 6-10, 2015

Major Invited Speeches

Local

1. What have we gained from the Human Genome Project: From basic science research to clinical practice, Loyola College Science Seminar Series, Baltimore, Maryland, April 29, 2007
2. Human Genetics: Accomplishment, Challenges, and Career Opportunities, Baltimore Polytechnic Institute Women Serious About Science, Baltimore, Maryland, November 20, 2007
3. Hypertension: Bench to Personalized Medicine, Joint Meeting of the Johns Hopkins University Alliance for Science and Technology Development and University of Maryland, Baltimore Commercial Ventures Advisory Board, Baltimore, Maryland, November 12-13, 2009
4. Hypertension and STK39: How do you follow up a promising GWAS finding?, Johns Hopkins University, Welch Center for Prevention, Epidemiology and Clinical Research Clinical Research Grand Grounds, Baltimore, Maryland, October 21, 2009
5. Hypertension and Personalized Medicine, Johns Hopkins University Institute of Genetic Medicine, Baltimore, Maryland, February 17, 2010
6. Genes, Society and Personalized Medicine: Exciting New Developments in Human Genetics, Baltimore Polytechnic Institute Women Serious About Science, Baltimore, Maryland, January 11, 2011
7. Hypertension genetics: How to have fun after GWAS, University of Maryland College Park Molecular and Cellular Biology Seminar, College Park, Maryland, September 7, 2011
8. Hypertension genetics: How to have fun after GWAS, University of Maryland, Baltimore Institute of Vascular Biology and Inflammatory Diseases, Baltimore, Maryland, October 26, 2011
9. Hypertension genetics, University of Maryland Department of Medicine Medical Grand Rounds, Baltimore, Maryland, May 9, 2012
10. Combining Genome-Wide Association Studies, Comparative Genomics and Genomic Annotation to Understand the Genetic Basis of Complex Diseases, 5th Annual UMD-UMB Research and Innovation Seed Program, University of Maryland, College Park, June 27, 2012
11. Life after GWAS: functional follow-up studies of blood pressure and lipid related association signals**,** Johns Hopkins School of Public Health Genetic Epidemiology Seminar, Baltimore, Maryland, November 26, 2012
12. Hypertension and Functional Genomics. University of Maryland Campus-wide Symposium on Hypertension, October 23, 2013

13. Genetics of Complex Diseases: How to study hypertension without becoming hypertensive. Department of Biological Sciences, University of Maryland, Baltimore County, October 1, 2014
14. NIH Grant Writing: Things I wish I'd known as a junior faculty member. Research Career Development Program, October 21, 2014
15. How to prepare a scientific talk: Let the science shine through. Student Research Group, University of Maryland School of Dentistry, October 1, 2015
16. NIH Grant Writing: How to turn your reviewers into your advocates. Research Career Development Program, December 1, 2015

National

17. Hypertension Genetics: Genome-Wide Approaches, Novel Gene Regulation Mechanisms, and Clinical Applications, University of Michigan, Department of Human Genetics, Ann Arbor, Michigan, May 18, 2009
18. Hypertension genetics: What have we learned from Genomewide Association Study? American Society of Nephrology, San Diego, California, October 31, 2009
19. Studying Complex Diseases in the Genomic Era. Virginia Polytechnic Institute and State University, VTLSS Seminar series, Blacksburg, VA, April 26, 2016

International

20. *STK39*: a Novel Hypertension Susceptibility Gene, Academia Sinica, Institute of Biomedical Sciences, Taipei, Taiwan, March 24, 2009
21. *STK39*: from Genomewide Association Study (GWAS) to Clinical Applications, World Congress of Nephrology Symposium on Genetic Determinants of Hypertension, Milan, Italy, May 23, 2009