FORMATO EUROPEO PER IL CURRICULUM VITAE

Nome	**Duncan Thomas**
Indirizzo	
Telefono	
Fax	
E-mail	
Nazionalità	
Data di nascita	

Professor of Preventive Medicine
Verna R. Richter Chair in Cancer Research

ESPERIENZA LAVORATIVA

• Date (da – a)	Preventive Medicine SSB 202 2001 N. Soto StreetHealth Sciences CampusLos Angeles
• Nome e indirizzo del datore di lavoro	

- cancer epidemiology
- genetic epidemiology
- radiation carcinogenesis
- electromagnetic fields
- environmental health
- biostatistics — design and analysis of studies relating health outcomes to environmental exposures and genetics
- Fellow: American College of Epidemiology, American Epidemiological Society
- President, International Genetic Epidemiology Society (1999)
- Member, President's Advisory Committee on Human Radiation Experiments (1995-96)
- Author, *Risk Estimates for the Health Effects of Alpha-Radiation* (1982), *Statistical Methods in Genetic Epidemiology* (Oxford, 2004), *Statistical Methods in Environmental Epidemiology*(Oxford, 2009), and numerous papers on biostatistical methods and epidemiology

• Tipo di azienda o settore	*Director of the Biostatistics Division and Verna R Richter Chair in Cancer Research, University of Southern California School of Medicine, USA*

My primary research interest has been in the development of statistical methods for genetic and environmental epidemiology, with wide involvement in

numerous studies in both areas. My statistical contributions include methods for analysis of nested case-control studies, approaches to modeling exposure-time-response relationships and interaction effects, exposure modeling and measurement error, and the use of Markov chain Monte Carlo (MCMC) methods and Generalized Estimating Equations (GEE) methods in genetics.On the environmental side, I have been particularly active in air pollution and radiation carcinogenesis. I was one of the founding investigators of the Southern California Childrenâ€™s Health Study, a major cohort study of the health effects of air pollution on schoolchildrenâ€™s lung development. I have also collaborated on studies of cancer in residents downwind of the Nevada Test Site, uranium miners, medical irradiation, and the atomic bomb survivors. I was a member of President Clintonâ€™s Advisory Committee on Human Radiation Experiments, as well as the National Academy of Sciences Committee on the Biological Effects of Ionizing Radiation (BEIR V), and radiation advisory committees for numerous other governmental agencies. Other environmental activities include studies of asbestos, malathion spraying in California, electromagnetic fields, and air pollution; I am a Co-Director of the Southern California Environmental Health Research Center.On the genetic side, I have numerous publications in the area of statistical genetics and am collaborating on family studies of breast and colon cancer, pathway based modeling, several genome-wide association studies, next generation sequencing, and epigenetics. I chaired organizing committees for the Genetic Analysis Workshop, and am a Past President of the International Genetic Epidemiology Society.I have authored two textbooks: Statistical Methods in Genetic Epidemiology (Oxford University Press, 2003) and Statistical Methods in Environmental Epidemiology (Oxford University Press, 2009).I feel that these three broad areas of interest make me uniquely qualified to address methodological challenges in studying gene-environment interactions.

• Tipo di impiego

. Breast Cancer Family History and Contralateral Breast Cancer Risk in Young Women: An Update From the Women's Environmental Cancer and Radiation Epidemiology Study J Clin Oncol. 2018 May 20; 36(15):1513-1520. View in: PubMed
. Re: Kheifets et al(2017): Residential magnetic fields exposure and childhood leukemia: a population-based case-control study in California. Cancer Causes Control. 2018 May 07. View in: PubMed
. Cancer Epidemiol Biomarkers Prev. 2018 May; 27(5):531-540. View in: PubMed
. Current Challenges and New Opportunities for Gene-Environment Interaction Studies of Complex Diseases Am J Epidemiol. 2017 Oct 01; 186(7):753-761. View in: PubMed
. Incorporation of Biological Knowledge Into the Study of Gene-Environment Interactions Am J Epidemiol. 2017 Oct 01; 186(7):771-777. View in: PubMed
. Opportunities and Challenges for Environmental Exposure Assessment in Population-Based Studies Cancer Epidemiol Biomarkers Prev. 2017 Sep; 26(9):1370-1380. View in: PubMed
. Informatics and Data Analytics to Support Exposome-Based Discovery for Public Health Annu Rev Public Health. 2017 Mar 20; 38:279-294. View in: PubMed
. Estimating the Effect of Targeted Screening Strategies: An Application to Colonoscopy and Colorectal Cancer Epidemiology. 2017 07; 28(4):470-478. View in: PubMed
. What Does "Precision Medicine" Have to Say About Prevention? Epidemiology. 2017 07; 28(4):479-483. View in: PubMed
. Inclusion of biological knowledge in a Bayesian shrinkage model for joint estimation of SNP effects Genet Epidemiol. 2017 05; 41(4):320-331. View in: PubMed
. Association of Common Genetic Variants With Contralateral Breast Cancer Risk in the WECARE Study J Natl Cancer Inst. 2017 10 01; 109(10). View in: PubMed
. GWASeq: targeted re-sequencing follow up to GWAS BMC Genomics. 2016 Mar 03; 17:176. View in: PubMed
. Linkage Analysis of Urine Arsenic Species Patterns in the Strong Heart Family

Study Toxicol Sci. 2015 Nov; 148(1):89-100. View in: PubMed
. Corrigendum: genome-wide association study of colorectal cancer identifies six new susceptibility loci Nat Commun. 2015 Oct 26; 6:8739. View in: PubMed
. The Influence of Screening for Precancerous Lesions on Family-Based Genetic Association Tests: An Example of Colorectal Polyps and Cancer Am J Epidemiol. 2015 Oct 15; 182(8):714-22. View in: PubMed
. Genome-wide association study of colorectal cancer identifies six new susceptibility loci Nat Commun. 2015 Jul 07; 6:7138. View in: PubMed
. A model to determine colorectal cancer risk using common genetic susceptibility lociGastroenterology. 2015 Jun; 148(7):1330-9. e14. View in: PubMed
. Complex pedigrees in the sequencing era: to track transmissions or decorrelate? Genet Epidemiol. 2014 Sep; 38 Suppl 1:S29-36. View in: PubMed
. Comprehensive analyses of DNA repair pathways, smoking and bladder cancer risk in Los Angeles and Shanghai Int J Cancer. 2014 Jul 15; 135(2):335-47. View in: PubMed
. Three authors reply Am J Epidemiol. 2014 Apr 15; 179(8):1037. View in: PubMed
. A genome-wide association study of early-onset breast cancer identifies PFKM as a novel breast cancer gene and supports a common genetic spectrum for breast cancer at any age Cancer Epidemiol Biomarkers Prev. 2014 Apr; 23(4):658-69. View in: PubMed
. Invited commentary: is it time to retire the "pack-years" variable? Maybe not! Am J Epidemiol. 2014 Feb 01; 179(3):299-302. View in: PubMed
. The cardiopulmonary effects of ambient air pollution and mechanistic pathways: a comparative hierarchical pathway analysis PLoS One. 2014; 9(12):e114913. View in: PubMed
. Two-stage family-based designs for sequencing studies BMC Proc. 2014; 8(Suppl 1):S32. View in: PubMed
. Two-phase and family-based designs for next-generation sequencing studies Front Genet. 2013 Dec 13; 4:276. View in: PubMed
. Measurement Error in Spatial Exposure Models: Study Design Implications Environmetrics. 2013 Dec 01; 24(8):518-520. View in: PubMed
. Null association between histology of first and second primary malignancies in men with bilateral testicular germ cell tumors Am J Epidemiol. 2013 Oct 15; 178(8):1240-5. View in: PubMed
. Contralateral breast cancer after radiotherapy among BRCA1 and BRCA2 mutation carriers: a WECARE study report Eur J Cancer. 2013 Sep; 49(14):2979-85. View in: PubMed
. Efficient two-step testing of gene-gene interactions in genome-wide association studies Genet Epidemiol. 2013 Jul; 37(5):440-51. View in: PubMed
. Meta-analysis identifies four new loci associated with testicular germ cell tumor Nat Genet. 2013 Jun; 45(6):680-5. View in: PubMed
. Risk of asynchronous contralateral breast cancer in noncarriers of BRCA1 and BRCA2 mutations with a family history of breast cancer: a report from the Women's Environmental Cancer and Radiation Epidemiology Study J Clin Oncol. 2013 Feb 01; 31(4):433-9. View in: PubMed
. A Bayesian Hierarchical Model for Relating Multiple SNPs within Multiple Genes to Disease Risk Int J Genomics. 2013; 2013:406217. View in: PubMed
. Analysis and optimal design for association studies using next-generation sequencing with case-control pools Genet Epidemiol. 2012 Dec; 36(8):870-81. View in: PubMed
. Reproductive status at first diagnosis influences risk of radiation-induced second primary contralateral breast cancer in the WECARE study Int J Radiat Oncol Biol Phys. 2012 Nov 15; 84(4):917-24. View in: PubMed
. Environmental epigenetics: prospects for studying epigenetic mediation of exposure-response relationships Hum Genet. 2012 Oct; 131(10):1565-89. View in: PubMed
. Recommendations and proposed guidelines for assessing the cumulative evidence on joint effects of genes and environments on cancer occurrence in humans Int J Epidemiol. 2012 Jun; 41(3):686-704. View in: PubMed
. Genetic epidemiology with a capital E: where will we be in another 10 years? Genet Epidemiol. 2012 Apr; 36(3):179-82. View in: PubMed

. Invited commentary: GE-Whiz! Ratcheting gene-environment studies up to the whole genome and the whole exposome Am J Epidemiol. 2012 Feb 01; 175(3):203-7; discussion 208-9. View in: PubMed
. A review of cancer in US. Hispanic populations. Cancer Prev Res (Phila). 2012 Feb; 5(2):150-63. View in: PubMed
. Some surprising twists on the road to discovering the contribution of rare variants to complex diseases Hum Hered. 2012; 74(3-4):113-7. View in: PubMed
. Colorectal cancer linkage on chromosomes 4q21, 8q13, 12q24, and 15q22 PLoS One. 2012; 7(5):e38175. View in: PubMed
. Variants in activators and downstream targets of ATM, radiation exposure, and contralateral breast cancer risk in the WECARE study Hum Mutat. 2012 Jan; 33(1):158-64. View in: PubMed
. Next generation analytic tools for large scale genetic epidemiology studies of complex diseases Genet Epidemiol. 2012 Jan; 36(1):22-35. View in: PubMed
. Joint analysis for integrating two related studies of different data types and different study designs using hierarchical modeling approaches Hum Hered. 2012; 74(2):83-96. View in: PubMed
. Incorporating model uncertainty in detecting rare variants: the Bayesian risk index Genet Epidemiol. 2011 Nov; 35(7):638-49. View in: PubMed
. Studying gene and gene-environment effects of uncommon and common variants on continuous traits: a marker-set approach using gene-trait similarity regression Am J Hum Genet. 2011 Aug 12; 89(2):277-88. View in: PubMed
. Heterogenous effect of androgen receptor CAG tract length on testicular germ cell tumor risk: shorter repeats associated with seminoma but not other histologic types Carcinogenesis. 2011 Aug; 32(8):1238-43. View in: PubMed
. Assessment of rare BRCA1 and BRCA2 variants of unknown significance using hierarchical modeling Genet Epidemiol. 2011 Jul; 35(5):389-97. View in: PubMed
. Sample size requirements to detect gene-environment interactions in genome-wide association studies Genet Epidemiol. 2011 Apr; 35(3):201-10. View in: PubMed
. Single nucleotide polymorphisms associated with risk for contralateral breast cancer in the Women's Environment, Cancer, and Radiation Epidemiology (WECARE) Study Breast Cancer Res. 2011; 13(6):R114. View in: PubMed
. Two-stage design of sequencing studies for testing association with rare variants Hum Hered. 2011; 71(4):209-20. View in: PubMed
. Using biological knowledge to discover higher order interactions in genetic association studies Genet Epidemiol. 2010 Dec; 34(8):863-78. View in: PubMed
. Discovery of complex pathways from observational data Stat Med. 2010 Aug 30; 29(19):1998-2011. View in: PubMed
. Efficient genome-wide association testing of gene-environment interaction in case-parent trios Am J Epidemiol. 2010 Jul 01; 172(1):116-22. View in: PubMed
. Population-based study of the risk of second primary contralateral breast cancer associated with carrying a mutation in BRCA1 or BRCA2 J Clin Oncol. 2010 May 10; 28(14):2404-10. View in: PubMed
. Radiation exposure, the ATM Gene, and contralateral breast cancer in the women's environmental cancer and radiation epidemiology study J Natl Cancer Inst. 2010 Apr 07; 102(7):475-83. View in: PubMed
. Gene--environment-wide association studies: emerging approaches Nat Rev Genet. 2010 Apr; 11(4):259-72. View in: PubMed
. Characterization of BRCA1 and BRCA2 deleterious mutations and variants of unknown clinical significance in unilateral and bilateral breast cancer: the WECARE study Hum Mutat. 2010 Mar; 31(3):E1200-40. View in: PubMed
. Complex system approaches to genetic analysis Bayesian approaches Adv Genet. 2010; 72:47-71. View in: PubMed
. Methods for investigating gene-environment interactions in candidate pathway and genome-wide association studies Annu Rev Public Health. 2010; 31:21-36. View in: PubMed
. Methodological Issues in Multistage Genome-wide Association Studies Stat Sci. 2009 Nov 01; 24(4):414-429. View in: PubMed

. Use of pathway information in molecular epidemiology Hum Genomics. 2009 Oct; 4(1):21-42. View in: PubMed
. Gene-trait similarity regression for multimarker-based association analysis Biometrics. 2009 Sep; 65(3):822-32. View in: PubMed
. Statistical methods for analysis of radiation effects with tumor and dose location-specific information with application to the WECARE study of asynchronous contralateral breast cancer Biometrics. 2009 Jun; 65(2):599-608. View in: PubMed
. Genome-wide association studies for discrete traits Genet Epidemiol. 2009; 33 Suppl 1:S8-12. View in: PubMed
. Approaches to complex pathways in molecular epidemiology: summary of a special conference of the American Association for Cancer Research Cancer Res. 2008 Dec 15; 68(24):10028-30. View in: PubMed
. Dose to the contralateral breast from radiotherapy and risk of second primary breast cancer in the WECARE study Int J Radiat Oncol Biol Phys. 2008 Nov 15; 72(4):1021-30. View in: PubMed
. Traffic-related air pollution and asthma onset in children: a prospective cohort study with individual exposure measurement Environ Health Perspect. 2008 Oct; 116(10):1433-8. View in: PubMed
. Variants in the ATM gene associated with a reduced risk of contralateral breast cancer Cancer Res. 2008 Aug 15; 68(16):6486-91. View in: PubMed
. Design considerations in a sib-pair study of linkage for susceptibility loci in cancer BMC Med Genet. 2008 Jul 10; 9:64. View in: PubMed
. The use of hierarchical models for estimating relative risks of individual genetic variants: an application to a study of melanoma Stat Med. 2008 May 20; 27(11):1973-92. View in: PubMed
. Variation of breast cancer risk among BRCA1/2 carriers JAMA. 2008 Jan 09; 299(2):194-201. View in: PubMed
. Effect of systemic adjuvant treatment on risk for contralateral breast cancer in the Women's Environment, Cancer and Radiation Epidemiology Study J Natl Cancer Inst. 2008 Jan 02; 100(1):32-40. View in: PubMed
. Viewpoint: using gene-environment interactions to dissect the effects of complex mixtures J Expo Sci Environ Epidemiol. 2007 Dec; 17 Suppl 2:S71-4. View in: PubMed
. Hierarchical Bayes prioritization of marker associations from a genome-wide association scan for further investigation Genet Epidemiol. 2007 Dec; 31(8):871-82. View in: PubMed
. Multistage sampling for latent variable models Lifetime Data Anal. 2007 Dec; 13(4):565-81. View in: PubMed
. Hypothesis testing, statistical power, and confidence limits in the presence of epistemic uncertainty Health Phys. 2007 Oct; 93(4):326-7; author reply 327-8. View in: PubMed
. Re: Estimation of bias in nongenetic observational studies using "Mendelian triangulation" by Bautista et al Ann Epidemiol. 2007 Jul; 17(7):511-3. View in: PubMed
. Dissecting effects of complex mixtures: who's afraid of informative priors? Epidemiology. 2007 Mar; 18(2):186-90. View in: PubMed
. Bayesian model averaging in time-series studies of air pollution and mortality J Toxicol Environ Health A. 2007 Feb 01; 70(3-4):311-5. View in: PubMed
. Model selection and Bayesian methods in statistical genetics: summary of group 11 contributions to Genetic Analysis Workshop 15 Genet Epidemiol. 2007; 31 Suppl 1:S96-102. View in: PubMed
. Bayesian hierarchical modeling of means and covariances of gene expression data within families BMC Proc. 2007; 1 Suppl 1:S111. View in: PubMed
. An utter refutation of the "Fundamental Theorem of the HapMap" by Terwilliger and Hiekkalinna Eur J Hum Genet. 2006 Dec; 14(12):1238-9. View in: PubMed
. BRCA1 and BRCA2 mutation carriers, oral contraceptive use, and breast cancer before age 50 Cancer Epidemiol Biomarkers Prev. 2006 Oct; 15(10):1863-70. View in: PubMed
. High-volume "-omics" technologies and the future of molecular epidemiology Epidemiology. 2006 Sep; 17(5):490-1. View in: PubMed
. No increased risk of breast cancer associated with alcohol consumption

among carriers of BRCA1 and BRCA2 mutations ages <50 years Cancer Epidemiol Biomarkers Prev. 2006 Aug; 15(8):1565-7. View in: PubMed
. Optimal two-stage genotyping designs for genome-wide association scans Genet Epidemiol. 2006 May; 30(4):356-68. View in: PubMed
. Are we ready for genome-wide association studies? Cancer Epidemiol Biomarkers Prev. 2006 Apr; 15(4):595-8. View in: PubMed
. Recent developments in genomewide association scans: a workshop summary and review Am J Hum Genet. 2005 Sep; 77(3):337-45. View in: PubMed
. 2005 Jul 9-23; 68(13-14):1167-74. View in: PubMed
. Multi-center screening of mutations in the ATM gene among women with breast cancer - the WECARE Study Radiat Res. 2005 Jun; 163(6):698-9. View in: PubMed
. BRCA1 variants in a family study of African-American and Latina women Hum Genet. 2005 May; 116(6):497-506. View in: PubMed
. A three-level model for binary time-series data: the effects of air pollution on school absences in the Southern California Children's Health Study Stat Med. 2005 Apr 15; 24(7):1103-15. View in: PubMed
. The need for a systematic approach to complex pathways in molecular epidemiology Cancer Epidemiol Biomarkers Prev. 2005 Mar; 14(3):557-9. View in: PubMed
. Breast cancer risks for BRCA1/2 carriers Science. 2004 Dec 24; 306(5705):2187-91; author reply 2187-91. View in: PubMed
. Lung cancer etiology: independent and joint effects of genetics, tobacco, and arsenic JAMA. 2004 Dec 22; 292(24):3026-9. View in: PubMed
. Case-sibling gene-association studies for diseases with variable age at onset Stat Med. 2004 Dec 15; 23(23):3697-712. View in: PubMed
. Two-Stage sampling designs for gene association studies Genet Epidemiol. 2004 Dec; 27(4):401-14. View in: PubMed
. SNPs, haplotypes, and cancer: applications in molecular epidemiology Cancer Epidemiol Biomarkers Prev. 2004 May; 13(5):681-7. View in: PubMed
. Betting odds and genetic associations J Natl Cancer Inst. 2004 Mar 17; 96(6):421-3. View in: PubMed
. Commentary: the concept of 'Mendelian Randomization' Int J Epidemiol. 2004 Feb; 33(1):21-5. View in: PubMed
. Study design: evaluating gene-environment interactions in the etiology of breast cancer - the WECARE study Breast Cancer Res. 2004; 6(3):R199-214. View in: PubMed
. Toxicokinetic genetics: an approach to gene-environment and gene-gene interactions in complex metabolic pathways IARC Sci Publ. 2004; (157):127-50. View in: PubMed
. Segregation and linkage analysis for longitudinal measurements of a quantitative trait BMC Genet. 2003 Dec 31; 4 Suppl 1:S21. View in: PubMed
. Genetic Analysis Workshop 13: simulated longitudinal data on families for a system of oligogenic traits BMC Genet. 2003 Dec 31; 4 Suppl 1:S3. View in: PubMed
. Modeling and E-M estimation of haplotype-specific relative risks from genotype data for a case-control study of unrelated individuals Hum Hered. 2003; 55(4):179-90. View in: PubMed
. Summary report: Missing data and pedigree and genotyping errors Genet Epidemiol. 2003; 25 Suppl 1:S36-42. View in: PubMed
. Bayesian modeling of complex metabolic pathways Hum Hered. 2003; 56(1-3):83-93. View in: PubMed
. Bayesian spatial modeling of haplotype associations Hum Hered. 2003; 56(1-3):32-40. View in: PubMed
. Traffic density and the risk of childhood leukemia in a Los Angeles case-control study Ann Epidemiol. 2002 Oct; 12(7):482-7. View in: PubMed
. Point: population stratification: a problem for case-control studies of candidate-gene associations? Cancer Epidemiol Biomarkers Prev. 2002 Jun; 11(6):505-12. View in: PubMed
. A two-stage model for multiple time series data of counts Biostatistics. 2002 Mar; 3(1):21-32. View in: PubMed
. Genetic epidemiology with a capital "E" Genet Epidemiol. 2000 Dec;

19(4):289-300. View in: PubMed

• Principali mansioni e responsabilità	*Director of the Biostatistics*