

CURRICULUM VITAE: August 2018
ELIZABETH ALISON THOMPSON

Title; Professor of Statistics Date of birth 5/22/49
Citizenship; U.S.A (from 10/29/97) SSN; ***_**_****

Please note: A list of publications and statement of research interests can be found at my web page <http://www.stat.washington.edu/thompson/>

Education

1967	Matriculated, Newnham College	Cambridge University
1968-70	First class honours, Mathematics Tripos	Cambridge University
1970	B.A. (Honours) Degree	Cambridge University
1971	Diploma in Mathematical Statistics (Distinction)	Cambridge University
1974	M.A.	Cambridge University
1974	Ph.D.(Statistics)	Cambridge University
1974-5	S.R.C./NATO postdoctoral fellow	Stanford University

Thesis title: Mathematical Analysis of Human Evolution and Population Structure

Thesis adviser; Dr. A. W. F. Edwards, Cambridge University.

Post-doc adviser; Prof. L L. Cavalli-Sforza, Dept. Genetics, Stanford University

Employment

1975–1976	Research fellow, King’s College, Cambridge
1976–1985	University Lecturer, Department of Pure Mathematics and Mathematical Statistics, Cambridge University (tenured from March 1979)
1978–1981	Official Fellow and Financial Tutor, King’s College, Cambridge
1979	Pre-elected to official fellowship, Newnham College, Cambridge
1981–1985	Official Fellow, College Lecturer and Director of Studies in Mathematics, Newnham College, Cambridge
1985/12	Professor, Department of Statistics, University of Washington
–2018/09	and Chair, Department of Statistics, 1989-94 and 2011-14 and Professor, Department of Biostatistics, 1988-2004
2000–2005	and Adjunct Professor of Statistics, North Carolina State University
2000–2018	and Adjunct Professor of Genome Sciences (until 2001, Genetics), University of Washington
2006–2018	and Adjunct Professor of Biostatistics, University of Washington
2018/09–	Emeritus Professor of Statistics, University of Washington

Academic Honors

1968–74	Prizes, scholarships and studentships, Newnham College, Cambridge
1973	Smith’s Prize (for predoctoral research), University of Cambridge
1973–74	Sims Scholarship, University of Cambridge
1975	Stott Prize (for postdoctoral research), Newnham College
1974–78	Junior Research Fellowship, King’s College, Cambridge
1978–82	Senior Research Fellowship, King’s College, Cambridge
1981	Elected to International Statistical Institute

Academic Honors continued

- 1988 Awarded Doctor of Science degree, University of Cambridge.
- 1998 Elected to American Academy of Arts and Sciences.
- 2000 Nominated by graduate students for Distinguished Teaching Award, UW.
- 2001 Awarded the inaugural Jerome Sacks Award for Cross-Disciplinary Research from the National Institute for Statistical Science.
- 2001 Awarded the Weldon Prize for contributions to Biometric Science, University of Oxford, UK.
- 2002 Awarded Guggenheim Fellowship, for period 9/2002-3/2003.
- 2006 Nominated for Marsha L. Landolt Distinguished Graduate Mentor Award, UW.
- 2006 Visiting Rothschild Professor of University of Cambridge, UK (Nov-Dec).
- 2008 Elected to the US National Academy of Sciences.
and so also Founding Member, Washington State Academy of Sciences
- 2013 Elected an Honorary Fellow of Newnham College, Cambridge, UK.
- 2016 Elected, Carnegie Centenary Visiting Professor, Jan-July 2017.

Academic Honors: special award lectures

- 1991 IMS Special Invited Lecturer; Santa Barbara Meeting; July 1991.
- 1994 R.A.Fisher Lecture, Joint Statistical Meetings, Toronto.
- 1996 Neyman Lecture (IMS), Joint Statistical Meetings, Chicago.
- 2003 Allen T. Craig Distinguished Lecturer, U. Iowa.
- 2004 Buehler-Martin Distinguished Lecturer, U. Minnesota.
- 2005 Mary Cartwright Lecturer, London Mathematical Society, UK.
- 2005 Milton Sobel Lecturer, U. California Santa Barbara.
- 2006 Fields Institute (Toronto) Distinguished Lecturer in Statistical Science
- 2006 Bahadur Lecturer, University of Chicago
- 2006 XXVII Fisher Memorial Lecture, Cambridge, UK
- 2008 Inaugural Tukey Lecture, IMS & Bernoulli World Congress, Singapore
- 2008 Krishnaiah Lecture, Penn State University.
- 2009 2008 Cockerham Lecture, NCSU.
- 2012 Woodroffe Lecture, University of Michigan
- 2015 Rustagi Lecture, Ohio State University
- 2017 Carnegie Lecture, School of Biology, University of St Andrews, Scotland
- 2017 Mitchell Lecture, School of Mathematical Sciences, Glasgow University

Current major professional responsibilities

- Director, Statistical Genetics Interdisciplinary Certificate Program, UW. (2000–)
- President of the International Biometric Society
President-elect 2015; President 2016-2017; Outgoing President 2018.
- Member, Elizabeth Scott Award Committee (COPSS Cttee; IMS nominee), 2014-2019
- Member, NRC Board of Mathematical Sciences and Analytics, 2014-2019
- Member, NAS Nominating Committee

Federal Research and Foundation Awards

1986	NSF-DMS-8604240	Math Sciences Equipment Grant (\$20K).
1987–88	NIH-RR03768	SBIR phase I grant; An expert system for genetic epidemiology (\$50K).
1987–90	NSF-BSR-8619760	Genealogical and Genetic Structure of Small Populations (\$126K).
1988–90	USDA 88-37151-3958	Pedigree analysis of disease resistance in Brassica. (\$100K; joint with T. Mitchell-Olds, U. Montana)
1990–93	NSF-DEB-8921839	Methods of genealogical and genetic analysis in conservation biology. (\$164K)
1991–95	NIH-GM-46255	Methods for the Genetic Epidemiology of Complex Traits. (\$583K)
1993–97	NSF-BIR-9305835	Computational Methodology for the Inference of Genealogical structure from genetic data. (\$210K)
1994–99	NSF-DMS-9406348	Program in Mathematics and Molecular Biology; member. (\$ 2.4M total; Director, Cozzarelli, UCB).
1995–99	NIH-GM-46255	Methods for the Genetic Epidemiology of Complex Traits. (\$ 1.1M)
1997–2002	NSF ACI-9619020	National Partnership for Advanced Computational Infrastructure (PI:Karin)
	1998-99	UW subcontract (Thompson)
1998–2002	NSF-BIR-9807747	Computational methods for inference of population parameters (\$166K)
1997–2005	Burroughs Welcome Fund	Program in Mathematics and Molecular Biology; (\$ 3.5M total; Director, Sumners, FSU) \$ 35K/year in member student support and training \$ 5K (2001), \$15K (2003) for UW student workshops
1999–2003	NIH-GM-46255	Methods for the Genetic Epidemiology of Complex Traits. (Years 9-12) (\$ 1.4M)
2003–2005	NIH-GM-45344-14S1	UW supplement subcontract to Weir Program Project (\$ 160K)
2003–2007	NIH-GM-46255	Methods for the Genetic Epidemiology of Complex Traits (Years 13-16). (\$ 1.5M)
2007-2010	NIH-HG004175	Efficient Software and Algorithms for Analyzing Markers Data on General Pedigrees (\$ 1.1M total: PI, Dechter, UCI) UW subcontract \$ 66K each year.
2009–2012	NIH-GM-46255-S18	ARRA Competitive supplement ARRA Methods for the Genetic Epidemiology of Complex Traits. (\$450K total)
2007–2017	NIH-GM-46255	Converted to R37 MERIT award 2008 Methods for the Genetic Epidemiology of Complex Traits (Years 17-26). (\$ 4.0M)
2012–2017	NIH P01 GM 099568 Project 4 (Thompson)	(PI Weir) Statistical and Quantitative Genetics Resolving Complex Traits through Inferred Coancestry of Genome Segments (Total Project 4 costs: approx 0.8M)

Major research experience outside of regular employment.

- 1973 Visiting Research Student, Dept. of Statistics, University of Aarhus, Denmark (3/73-6/73)
- 1975 Visiting Scholar, Dept. of Human Genetics, Univ. of Michigan, Ann Arbor (3/75-5/75)
- 1975 Visiting Scholar, Department of Biophysics, University of Utah (7/75)
- 1976 Visiting Research Consultant, University of Utah (6/76-8/76)
- 1977–78 Visiting Scholar, University of Michigan (6/77-9/77), University of Utah (4/78-9/78)
- 1986–88 Visiting Consultant, University of Utah (7/86); Consultant, DMS Inc., Salt Lake City, Utah (12/87-3/88)
- 1988 Visiting Scholar, University of Michigan (6/88-8/88)
- 1991–92 Visiting Professor, Rutgers University (Center for Theoretical and Applied Genetics) (12/91-3/92)
- 1994–2005 Member, Program in Mathematics and Molecular Biology.
- 1994 Visiting Scholar, Department of Biostatistics, University of Michigan 9/94-12/94
- 1995 Visiting Scholar, Department of Biological Sciences, Rutgers, University (1/95-3/95)
- 1995 Visiting Scholar, Department of Human Genetics, McGill University (4/95-6/95)
- 2002–03 Visiting Professor, Department of Statistics, North Carolina State University (09/2002-03/2003)
- 2006 Visiting Rothschild Professor of University of Cambridge, UK (Nov-Dec).
- 2017 Carnegie Centenary Visiting Professor, visiting University of St Andrews, and other Scottish Unversities, Jan-July 2017.

Editorial activities

- 1980–91 Associate Editor, Theoretical Population Biology
- 1983–2002 Associate Editor, IMA J. of Math. Appl. in Medicine and Biology
- 1984–86 Associate Editor, Proceedings of Cambridge Philosophical Society
- 1987–92 Associate Editor, Genetics
- 1987–94 Editorial Board, Genomics
- 1989–94 Editorial Board, Statistics in Medicine
- 1992–94 Editorial Board, Chapman & Hall Interdisciplinary Monograph Series in Statistics
- 1993–96 Associate Editor, Biometrics (Shorter Communications)
- 1993– Editorial Board, Journal of Computational Biology
- 1994–2003 Associate Editor, Annals of Statistics
- 1995–2001 Editorial Board, IBS Monograph Series: Case Studies in Biometry.
- 2002–2012 Co-editor, Statistical Applications in Genetics and Molecular Biology (Bepress electronic journal).

Other major professional activities

- 1979–81 Member, Electors to Fellowships, King’s College, Cambridge
- 1982–85 Cambridge University General Board and Faculty Board committees on College and University teaching, Tripos reform, etc.
- 1984–86 Faculty Board of Mathematics, University of Cambridge
- 1989–1994 Chair, Department of Statistics, UW
- 1990–1991 Graduate School (UW) review committee to establish the interdisciplinary QERM program
- 1991–1992 NHLBI expert panel on future of Genetic Epidemiological research in heart lung and blood diseases.
- 1991–2002 Member, QERM Interdisciplinary Faculty Group, UW.
- 1993 NSF Advisory Panel on future of Computational Biology
- 1993 NAS/NRC Advisory Panel on Forensic DNA
- 1994–1997 Member, NRC Committee of Applied and Theoretical Statistics
- 1995–1998 Graduate Program Coordinator, Statistics, University of Washington.
- 1997–1999 Executive Committee, West North American Region of the International Biometric Society (President, 1998)
- 1998–1999 Alternate Graduate Coordinator, QERM Interdisciplinary Program, University of Washington.
- 1997–2000 Member, Technology working group of the NIH panel on Forensic DNA
- 1997–2001 Member of Council, International Statistical Institute
- 1997–1998 Member of National Institute Stat. Sciences Corporation.
- 1999–2000 Graduate Program Coordinator, Statistics, University of Washington.
- 1999–2002 Member, Computational Molecular Biology faculty group, UW.
- 2000–2002 Member, Scientific Program Committee, IBC 2002
- 2002–2003 Member, RSS 2003 Meeting on Statistical Genetics, Program Committee.
- 2002–2004 Member, Scientific Program Committee, IBC 2004
- 2002–2004 Member, Board of Trustees, National Institute of Statistical Science (2002-3). (Member of Sacks Award Committee, 2002-4; Chair 2003)
- 1999–2004 Coordinator, Statistical Genetics, Statistics and Biostatistics, UW
- 2002–2005 Member, Scientific Review Board, Pacific Institute of Mathematical Sciences.
- 2004–2007 Member of COPSS Fisher Lecture Award Committee (Chair 2006-7)
- 2005–2009 Member, Scientific Advisory Board, Banff International Research Station
- 2006–2009 Member of Council, International Biometric Society
- 2010 Member, Best paper review Committee for Dutch region of IBS
- 2009–2010 Member, Program Committee, IMS/Bernoulli Congress; (Gottenberg 2010).
- 2009–2011 Member, NRC Committee to review Science of 2001 Anthrax Mailings.
- 2010 Member of General Officer Nominating Committee, International Biometric Society
- 2010–2012 Member, College of CSR Reviewers (Center for Scientific Review, NIH)
- 2010–2012 Member, Elizabeth Scott Award Committee (COPSS Cttee; WNAR nominee)
- 2009–2013 Member, Scientific Advisory Board, Institute for Pure and Applied Mathematics (IPAM)

Other major professional activities (contd.)

- 2011–2013 Member, National Academy of Sciences Class 3 Membership Committee.
- 2010–2013 Member of Council, International Biometric Society.
- 2011–2014 Chair, Department of Statistics, University of Washington.
- 2012–2014 Member, International Program Committee for IBC XXV11, Florence, Italy.
- 2016 Member, NSF Directorate of Mathematical Sciences Committee of Visitors
- 1999–2016 Coordinator, Statistical Genetics Interdisciplinary Faculty Group, UW
- 2007–2016 Co-director, NIH Statistical Genetics Training Grant, UW.

Postdoctoral Advisees (*: with independent support)

1. 1982-1983* Tom Meagher, Fullbright Fellow
Statistical Laboratory, University of Cambridge
Current Position; Professor, Univ. of St. Andrews, UK
2. 1986-1987* Alun Thomas, Acting Assistant Professor
Department of Statistics, University of Washington
Current Position; Professor of Medical Genetics, University of Utah
3. 1988-1989* Paul Joyce, Acting Assistant Professor
Department of Statistics, University of Washington
Final Position; Dean of Sciences, University of Idaho
4. 1995-1997 Simon Heath, Department of Statistics, University of Washington
Current Position; Statistical Genomics and Bioinformatics Development
Group Leader, National Center for Genomic Analysis, Barcelona, Spain.
5. 1997-1999 Jochen Kumm, Department of Statistics, University of Washington
Current Position; Director of Bioinformatics, Stanford Genome Technology
Center
6. 1997-2000 E. Warwick Daw; Statistics and Medical Genetics, Univ. Washington
Current Position: Research Statistician, Division of Statistical Genomics
Washington University, St. Louis
7. 2002* David Henderson, Visiting Assistant Professor
Department of Statistics, University of Washington
Current Position; Independent Genomics Research Consultant, Seattle.
8. 2000-2002 Andrew George, Department of Statistics, University of Washington
Current Position; University of Queensland, Australia
9. 2001-2004 * Oliver Will, NSF VIGRE Postdoctoral Fellow
Department of Statistics, University of Washington
Current Position; Biotechnology Research Scientist, Philadelphia.
10. 2004-2006 Adele Mitchell, Department of Statistics and Genome Training Grant,
University of Washington
Current position; Merck, Boston, MA, USA.
11. 2004-2007 Liping Tong, Department of Statistics, University of Washington
Current Position; Department of Public Health Sciences, Loyola University,
Chicago.
12. 2010-2012 Chaozhi Zheng, Department of Statistics, University of Washington
Current position, Research Scientist, Biometris, University of Wageningen
13. 2013-2015 Jesse Raffa, Department of Statistics, University of Washington
Current position; Research Scientist, Laboratory for Computational
Physiology, Massachusetts Institute of Technology
14. 2014-2015 John Ranola, Department of Statistics and Genome Training Grant,
University of Washington
Current position; Research Statistical Geneticist, Department of Laboratory
Medicine, University of Washington

Graduate Students; Ph.D. Students

1. Fall 1981; Kevin Donnelly; Ph. D., Cambridge University
a.k.a Caoimhin adrai O'Donnail
Genetic linkage, detectable relationships and other topics.
2. Dec. 1985; Alun Thomas, Ph.D., Cambridge University.
Data structures, methods of approximation and optimal computation for pedigrees
3. March 1988; Gary Churchill, Ph.D. Biostatistics, University of Washington.
Stochastic models for DNA sequence data
4. June 1990; Charles Geyer ; Ph.D., Statistics, University of Washington.
Likelihood and exponential families
5. Aug. 1990; Nuala Sheehan; Ph.D., Statistics, University of Washington.
Genetic restoration on complex pedigrees.
6. Dec. 1990; Mariza de Andrade; Ph.D., Biostatistics, University of Washington.
Estimation of genotypic parameters under non-normal models.
7. Dec. 1991; Sun Wei Guo; Ph.D., Biostatistics, University of Washington.
Monte Carlo methods in quantitative genetics
8. June 1993; Shili Lin; Ph.D., Statistics, University of Washington.
Markov chain Monte Carlo estimates of probabilities on complex structures.
9. Aug. 1993; Heike Blossey (Bickeboeller); Ph.D., Statistics, University of Washington.
The Poisson clumping heuristic and survival of a genome continuum.
10. Aug. 1995; Hongzhe Li; Ph.D., Statistics, University of Washington.
Semiparametric estimation of major gene and random environmental effects for age of onset.
11. June 1996; Ian Painter; Ph.D., Statistics, University of Washington.
Inference in a discrete parameter space.
12. Aug. 1998; Jinko Graham; Ph.D. Biostatistics, University of Washington.
Disequilibrium fine-mapping of a rare allele via coalescent models of gene ancestry.
13. July 1999; Sharon Browning; Ph.D., Statistics, University of Washington
Monte Carlo likelihood calculation for identity by descent data.
14. Aug, 2000; Mary Beatrix Jones; Ph.D., Statistics, University of Washington
Likelihood inference for parametric models of dispersal
15. June 2001; Nicola Chapman; Ph.D., Biostatistics, University of Washington.
Genome descent in isolated populations
16. Aug. 2001; Eric Anderson; Ph.D., Quantitative Ecology and Resource Management, University of Washington.
Monte Carlo methods for inference in population genetic models
17. Aug. 2003 Amy Anderson; Ph.D., Statistics, University of Washington.
The genetic structure of related recombinant inbred lines
18. Aug. 2003 Na (Michael) Li; Ph.D., Biostatistics, University of Washington.
Modeling and inference for linkage disequilibrium and recombination (Co-adviser with Matthew Stephens)
19. Aug. 2003 Solveig (Solly) Sieberts; Ph.D., Statistics, University of Washington.
Joint relationship inference from three or more individuals in the presence of genotyping error

Graduate Students; Ph.D. . Thesis advisees (contd.)

20. Dec. 2003 Anne-Louise Leutenegger; Ph.D. Biostatistics, Univ. of Washington.
Estimation of random genome sharing: Consequences for linkage detection
(Co-adviser with Francoise Clerget-Darpoux for Univ. Paris XI)
21. Aug. 2005 Saonli Basu; Ph.D., Statistics, University of Washington.
Allele-sharing methods for linkage detection using extended pedigrees
22. Nov. 2005 William Stewart; Ph.D., Statistics, University of Washington.
Alternative models for estimating genetic maps from pedigree data
23. Aug. 2006 Arindam RoyChoudhury; Ph.D., Statistics, University of Washington.
Likelihood inference for population structure, using the coalescent
24. June 2009 Yanming Di; Ph.D., Statistics, University of Washington.
Conditional tests for localizing trait genes
25. March 2013 Ming Su; Ph.D., Electrical Engineering, University of Washington.
Probabilistic inference in modern genetic linkage analysis
(Co-adviser with Richard Shi (EE))
26. June 2014 Christopher Glazner; Ph.D., Statistics, University of Washington.
Monte Carlo estimation of identity by descent in populations
27. June 2014 Serge Sverdlov; Ph.D., Statistics, University of Washington.
Functional quantitative genetics and the missing heritability problem
28. March 2017 Fiona Grimson; Ph.D., Statistics, University of Washintong.
Scalable methods of inference of identity by descent

Diploma and M.S. Thesis advisees

- June 1981; Patty Solomon; Dip Stat, Cambridge University
The inheritance of height; An analysis of a Finnish population on the basis of simple genetic models.
- June 1982; Alun Thomas; Dip. Stat., Cambridge University
Marriage patterns and gene extinction on Tristan da Cunha.
- June 1984; Daniel Goodman; Dip. Stat., Cambridge University
Linkage analysis in a Newfoundland genealogy.
- June 1985; Christine Hackett; Dip.Stat., Cambridge University
An analysis of Faroese marriage data; the patterns of migration and the consequent genetic variation.
- June 1988; Ellen Walters ; M.S., Biostatistics, University of Washington.
Comparison of linkage analysis designs based on individuals affected with recessive diseases
- Aug. 1994; Colin C. Wilson; M.S.; Quantitative Ecology and Resource Management, University of Washington.
Bayesian estimation of genealogical structure in small populations.
- Aug. 1997; Beatrix Jones; M.S., Statistics, University of Washington.
Phylogeny inference via conditional independence modelling
- June 2001; Solveig Sieberts; M.S., Statistics, University of Washington.
Recessive lethals: a possible explanation for excess sharing in sibs
- June 2005 Ting-Yuan Liu; M.S., Statistics, University of Washington.
Analysis of haplotype structure: Application to the DARC gene region
- Mar. 2006 Sinjian Grace Gé; Ph.Cand., Biostatistics, University of Washington.
Genetic analysis of longitudinal data on a time-varying quantitative trait.
- Aug 2011 Marshall Brown; M.S., Statistics, University of Washington.
The effect of linkage disequilibrium on inferring coancestry in populations.