

CURRICULUM VITAE: June 2023
ELIZABETH ALISON THOMPSON

Title; Professor of Statistics (Emerita) 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://faculty.washington.edu/eathomp/>

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

1975-76	Research fellow, King's College, Cambridge
1976-85	University Lecturer, Department of Pure Mathematics and Mathematical Statistics, Cambridge University (tenured from March 1979)
1978-81	Official Fellow and Financial Tutor, King's College, Cambridge
1979	Pre-elected to official fellowship, Newnham College, Cambridge
1981-85	Official Fellow, College Lecturer and Director of Studies in Mathematics, Newnham College, Cambridge
1985(Dec)- 2018(Sept)	Professor, Department of Statistics, University of Washington and Chair, Department of Statistics, 1989-94 and 2011-14 and Professor, Department of Biostatistics, 1988-2004
2000-05	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(Sept)-	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	Elected, Junior Research Fellowship, King's College, Cambridge
1978-82	Elected, 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.
- 2022 Elected. Honorary Life Member, International Biometric Society.
- 2023 Elected Fellow of the Royal Society (UK).

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.
- 1996 Bernoulli World Congress Special Invited Lecture, Vienna, Austria.
- 1998 Sewall Wright Symposium, University of Wisconsin, (2 Lectures)
- 2003 Allen T. Craig Distinguished Lecturer, (2 lectures) U. Iowa.
- 2004 Buehler-Martin Distinguished Lecturer, (3 lectures) U. Minnesota.
- 2005 Mary Cartwright Lecturer, London Mathematical Society, UK.
- 2005 Milton Sobel Lecturer, U. California Santa Barbara.
- 2006 Fields Institute Distinguished Lecturer in Statistical Science, (2 lectures), Toronto
- 2006 Bahadur Lecturer, University of Chicago
- 2006 XXVII Fisher Memorial Lecture, Cambridge, UK
- 2006 Rothschild Lecture, Isaac Newton Institute, Cambridge, UK
- 2008 Inaugural Tukey Lecture, IMS & Bernoulli World Congress, Singapore
- 2008 Krishnaiah Lecture, Penn State University.
- 2009 2008 Cockerham Lecture, North Carolina State University.
- 2010 Randall Lecture, University of Idaho.
- 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
- 2019 PIMS Distinguished Speaker, University of Manitoba, Winnipeg, Canada.

Current major professional responsibilities

- Director, Statistical Genetics Interdisciplinary Certificate Program, UW. (2000–)
- Member, Board of Directors, Pacific Institute for Mathematical Sciences (2020–)

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 Wellcome 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)
2007–2019	NIH-GM-46255	Converted to R37 MERIT award 2008 Methods for the Genetic Epidemiology of Complex Traits (Years 17-28). (\$ 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, Burroughs Wellcome Program in Mathematics and Molecular Biology.
- 1994 -5 Visiting Scholar/Fellow:
Department of Biostatistics, University of Michigan (9/94-12/94)
Department of Biological Sciences, Rutgers, University (1/95-3/95)
Department of Human Genetics, McGill University (4/95-6/95)
University Adelaide, Australia, and other Australian Universities (8/95)
- 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 Universities, 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)
- 1993–2021 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.
- 1983–85 Committee member, British Region of the International Biometric Society
- 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 group of faculty, 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)
- 1997–2000 Member, Technology working group of the NIJ panel on Forensic DNA
- 1997–2001 Member of Council, International Statistical Institute
- 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
- 2002–2004 Member, Board of Trustees, National Institute of Statistical Science (2002-3). (Member of Sacks Award Committee, 2002-4; Chair 2003)
- 1999–2016 Coordinator, Interdisciplinary Statistical Genetics Faculty Group, 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
- 2006–2013 Member of Council, International Biometric Society (IBS)
- 2007–2016 Co-director, Statistical Genetics NIH Training Grant, UW
- 2009–2011 Member, NRC Committee to review Science of 2001 Anthrax Mailings.
- 2010 Member of General Officer Nominating Committee, IBS.
- 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)
- 2011–2013 Member, National Academy of Sciences Class 3 Membership Committee.
- 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
- 2014-2019 Member, Elizabeth Scott Award Committee (COPSS Cttee; IMS nominee)
- 2014-2019 Member, NRC Board of Mathematical Sciences and their Applications
- 2015-2018 President/Vice-President of the International Biometric Society
President-elect 2015; President 2016-2017; Outgoing President 2018.
- 2018,21,22 Member, NAS Nominating Committee

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 Washington.
Scalable methods of inference of identity by descent
29. August 2019 Bowen Wang; Ph.D., Statistics, University of Washington.
Realized genome sharing in random effects models for quantitative genetic traits
30. December 2022 Aaron Baraff; Ph.D., Statistics, University of Washington.
Likelihood-based haplotype frequency modeling using variable-order Markov chains

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 2009 Zheng Cai; Visiting student, Statistics, University of Washington.
Simulaton of descent of chromosome segments in structured populations.
(Project during visit year from University of Utah.)
- Aug 2011 Marshall Brown; M.S., Statistics, University of Washington.
The effect of linkage disequilibrium on inferring coancestry in populations.
- Aug 2013 Chensheng Kuang; M.S., Statistics, University of Washington.
The size distribution of IBD groups under ESF and the coalescent
(M.S. project for Statistical Genetics special emphasis)