## CURRICULUM VITAE: May 2025 ELIZABETH ALISON THOMPSON

Title; Professor of Statistics (Emerita)Date of birth 5/22/49Citizenship; 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)-	Professor, Department of Statistics, University of Washington
2018(Sept)	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, Canada
- 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 Woodroofe 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

Member, Board of Directors, Pacific Institute for Mathematical Sciences (2020–27) and Member of Finance Committee (2024–) and Member of Co-Director Search Committe (2025)
Member, Royal Statistical Society, Committee on Obituaries (2025-)

### 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	<ul> <li>Program in Mathematics and Molecular Biology;</li> <li>(\$ 3.5M total; Director, Sumners, FSU)</li> <li>\$ 35K/year in member student support and training</li> <li>\$ 5K (2001), \$15K (2003) for UW student workshops</li> </ul>
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)

## Federal Research and Foundation Awards continued

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	(PI Weir) Statistical and Quantitative Genetics
	Project 4 (Thompson)	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).
- 2025– Member, Editorial Board, PNAS.

#### 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.
- 2000–2004 Member, Scientific Program Committee, IBC 2002 and IBC 2004
- 2002–2004 Member, Board of Trustees, National Institute of Statistical Science (2002-3). (Member of Sacks Award Committee, 2002-4; Chair 2003)
- 1999–2016 Coordinator, Interdisciplinary Statistical Genetics Faculty Group, UW
- 2000-2024 Director, Statistical Genetics Interdisciplinary Certificate Program, UW.
- 2002–2005 Member, Scientific Review Board, Pacific Institute of Mathematical Sciences.

# Other major professional activities continued

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 2021	and 2022: Member NAS Nominating Committee

2018,2021 and 2022: 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,
10 0010 0010	Chicago.
12. 2010-2012	Chaozhi Zheng, Department of Statistics, University of Washington
12 0012 0015	Current position, Research Scientist, Biometris, University of Wageningen
13. 2013-2015	Generate a setting Descende Scientist Laboratory for Commutational
	Divisiology Magaachugatta Institute of Tachnology
14 2014 2015	Ichn Banola, Department of Statistics and Conome Training Cront
14. 2014-2013	John Rahoia, Department of Statistics and Genome Training Grant, University of Weshington
	Current position: Research Statistical Consticut. Department of Laboratory
	Modicine University of Washington
	medicine, Oniversity 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.
10 1 1000	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
19 1 1 1000	ancestry.
13. July 1999;	Sharon Browning; Ph.D., Statistics, University of Washington
14 4 . 0000	Monte Carlo likelihood calculation for identity by descent data.
14. Aug, 2000;	Mary Beatrix Jones; Ph.D., Statistics, University of Washington
15 June 2001.	Likelihood inference for parametric models of dispersal
15. June 2001;	Conome descent in isolated populations
16 Aug 2001.	Frie Anderson: Ph.D. Quantitative Feelery and Resource
10. Aug. 2001,	Management University of Washington
	Monte Carlo methods for inference in population genetic models
17 Aug 2003	Amy Anderson: Ph.D. Statistics University of Washington
11. Hug. 2000	The genetic structure of related recombinant inbred lines
18 Aug 2003	Na (Michael) Li: Ph D Biostatistics University of Washington
10. 11ug. 2009	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 of 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 snaring: Consequences for linkage detection
01	1 2005	(Co-adviser with Francoise Clerget-Darpoux for Univ. Paris AI)
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)