

## **Arnoldo Frigessi, Curriculum vitae**

### **Personal information**

Born in Milano, Italy, 13. 4. 1959. Italian citizen.

Affiliation: Department of Biostatistics, Institute of Basic Medical Sciences, University of Oslo,  
PB 1122 Blindern, N-0317 Oslo

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webpage: <http://www.med.uio.no/imb/english/people/aca/frigessi/index.html>

### **Education, positions**

- 2003 – Professor in Statistics, Department of Biostatistics, University of Oslo  
2007 – 2014 Director of the Norwegian centre of excellence for research-based innovation  
“Statistics for Innovation”  
2003 – Adjunct research scientist, Norwegian Computing Centre

Previous positions:

- 1983 Italian Laurea (MSc) in Mathematics, University of Milano.  
1986 – 1992 Researcher of the Istituto per le Applicazioni del Calcolo (IAC), Roma.  
1992 – 1994 Associate Professor in Probability and Statistics, University of Venezia  
1994 – 1997 Associate Professor in Statistics, Third University of Rome  
1997 – 2003 Senior Researcher at the Norwegian Computing Centre, Oslo  
Chief Research Scientists since 1999.  
2000 – 2003 Adjunct Professor (20% position), Department of Mathematics, University of Oslo

### **Awards**

- Elected member of the Royal Norwegian Academy of Sciences and Letters, Oslo, 2008.
- Elected member of the Norwegian Academy of Technological Sciences, Trondheim, 2008.

### **Supervision**

Ph.D supervisions (co-supervisors in parenthesis):

1. *Paula Gonzaga de Sa'*, Université de Louvain, 1991-93, Approximated image restoration.
2. *Fabio Divino*, University of Florence, 1994-96, Penalised pseudolikelihood estimation with applications in spatial statistics.
3. Marco di Zio, University of Rome I, 1996-98, Wavelets: theory and applications.
4. *Maria R. Sebastiani*, University of Florence, 1996-98, Spatial models for the identification of local labour markets.
5. *Xeni Dimakos*, University of Oslo, 1998-2000, Topics in computer intensive inference.
6. *Sveinung Erland*, NTNU Trondheim, 1999-2003, Adaptive MCMC. (*Rue*)
7. *Turid Follestad*, NTNU Trondheim, 1999-2003, Modelling in space and time. (*Rue*)
8. *Inge Olsen*, NTNU Trondheim, 2002-2006, population dynamics. (*Rue*)
9. *Ida Scheel*, UiO, 2004-2008, statistical genomics (Glad and Hjort).
10. *Egil Ferkingstad*, UiO, 2004-8, causality in statistics with applications to genomics. (Aalen)
11. *Ståle Nygård*, UiO, 2004-2008, statistical genomics. (Borgan and Aldrin)
12. *Ragnar Nesvåg*, UiO, 2004-2008, psychiatric disorders, genomics, MRI. (Agartz)
13. *Hege Bøvelstad*, UiO, 2006-2010, Statistical methodologies for prediction based on high dimensional genomic data. (Borgan and Liestøl)

14. *Hayat Mohammed*, UiO, 2007-2011, Statistical Genomics. (Glad)
15. **Ragnhild Raastad**, UiO, 2007-10 2012-14, Risk factors for antibiotics resistance. (Müller)
16. *Glenn Lawyer*, UiO, 2005-2008, Neurocomputing, (Agartz)
17. *Alessandro Ottavi*, NTNU, 2008-2011, spatial statistics and climate (Rue) (interrupted)
18. **Marissa LeBlanc**, UiO, 2008-14, Statistical methods for genetic association studies, ( Kulle, Andreassen)
19. *Ingrid H. Haff*, UiO, 2009-12, Pair-copula constructions of multiple dependence. (Aas. Borgan)
20. *Halfdan Rydbeck*, UiO, 2008-2013, Integrative epigenome analysis, (Ola Myckelbust, Eivind Hovig, Knut Liestøl)
21. **Gudmund Horn Hermansen**, UiO, 2008-2011, Nonparametric space-time models (Hjort)
22. *Øystein Sørensen*, UiO, 2011-2015, Lasso in regression with measurement error. (Thoresen)
23. **Jonas Paulsen**, UiO 2011-2014, The dynamic genome: computational aspects of the three-dimensional and epigenetic architecture of the genome. (Eivind Hovig)
24. **Dennis Linder**, UiO 2011-2015, Simulation of Life Course in Psoriasis. (Keilman)
25. **Reinaldo Marquez**, UiO 2011-14, Sequential inference in dynamic hierarchical models (Storvik)
26. **Kristoffer Hellton**, UiO 2011-2015, PCA with  $p \gg n$  variables and measurement error. (Thoresen)
27. **Christian Rohrbeck** STORi Lancaster University, 2013-2015, Spatial methods for weather related insurance claims. (Co-supervision with Debbie Costain, Jon Tawn, Ida Scheel)

Informal co-supervision of Ph.D thesis:

1. *Håvard Rue*, NTH, Trondheim, 1992-93, Topics in Image Analysis
2. *Knut Heggland*, Oslo, 2000-not completed, Simulation based inference.

Supervision of post-docs:

1. *Angela Mariotto*, Italian Research Council, 1990;
2. *Laurent Younes*, Italian Research Council, 1991;
3. *Julian Stander*, British Royal Society, 1992--93;
4. *E. Clare Marschall*, EU TMR Spatial and Computational Statistics, 1999-00;
5. *Mark van de Wiel*, EU TMR Spatial and Computational Statistics, 2001.
6. *Bettina Kulle*, NFR FUGE, Statistical genomics, 2005-2008.
7. *Petter Mostad*, NFR GeneStat, 2005-2006.
8. *Andrew Brown*, FUGE, TOP project, 2008-2010.
9. *Ida Scheel*, UiO (2008-2010)
10. *Egil Ferkingstad*, NR (2007-2009)
11. **Valeria Vitelli**, UiO 2013-2016

## Teaching

Courses taught at various levels: Statistics, Random fields, Statistical image analysis, Probability theory, Calculus, Stochastic processes, Graph theory, Markov chain Monte Carlo, Extreme value theory in actuarial and environmental sciences, Stochastic simulation, Linear models. I have been teaching postdoctoral courses in several international summer schools.

I have supervised 12 students in their thesis work for the Italian and Norwegian master.

I have supervised 9 master students at the University of Hawassa, Ethiopia

## Editorial activities:

- International Statistical Review, co-editor, (2011-present)

- STAT, co-editor and co-founder, (2011-present)
- Journal of Applied Statistics in Business and Industry, ass. editor (2002- present ).
- Journal of the Royal Statistical Society, Series B, associate editor, (2005-2007)
- Scandinavian Journal of Statistics, ass. editor (2000-2005)
- Journal of Nonparametric Statistics (2002), guest editor, Statistical Modelling 2004.

### **Research funding:**

1. Director of *Statistics for Innovation* (<http://sfi.nr.no>), one of the Norwegian Centres for Research-based Innovation. Statistics for Innovation will develop core statistical methodologies, strategically necessary to achieve innovation goals in four key sectors: petroleum, finance, marine and health. The centre started in 2007 and will operate for eight years. It is based at the Norwegian Computing Center (Norsk Regnesentral, NR) in Oslo and is a partnership with the University of Oslo (UiO), the Norwegian University of Science and Technology (NTNU) and 11 partners: Statoil, DnBNOR, Gjensidige, Hydro, Institute of Marine Research, Sencel, Biomolex, Pubgene, The Oslo University Hospital, Smerud Medical research and Spermatech. Statistics for Innovation is funded by the Research Council of Norway and by the partners, with an annual budget of about 4 million Euro. About 100 researchers join the research projects of the centre. Statistics for Innovation participates to the UiO training programme and funds many Ph.D grants and postdocs.
2. MASTMO Master in mathematical and statistical modelling at University of Hawassa, Ethiopia. NTNU (Omre) is PI. Funded by NORAD. This project has been refunded and includes PhD students. 2010-2018
3. Norwegian Cancer Association. Integrative Genomics 2013-2016 (with Thoresen).
4. Abel Symposium 2014 on high dimensional data, PI.

### **Current and recent professional activities (selection):**

- Member of the International Statistical Institute committee for the Karl Pearson Prize
- Member of the Norwegian Statistical Society committee for the Swerdrup prize.
- Scientific committee of the Centre for Research in Statistical Methodology (CRiSM), Warwick, UK, 2007-.
- Scientific advisory board of e-Science for Cancer Prevention and Control (eCPC), Karolinska, Stockholm, 2012-2015.
- External Advisory Board's of STORi, Statistics and Operational Research Doctoral Training Centre Lancaster University, from 2012-2015.
- Site Review Committee to assess the Canadian Mathematics Institutes, Fields, PIMS, CRM, 2014

### **Past grants:**

- Statistical Approaches to Regional Climate Models for Adaptation: A Nordic Top-level Research Initiative (Funded by the Nordic Top-level Research Initiative), 2010-2013. PI
- Norwegian Research Council: Norklima. Insuring Future Climate Change 2009-2013, PI.
- EMBIO, UiO grant for a statistical service in statistical genomics, 2004-11.
- Norwegian Research Council grant: Imaging genetics of schizophrenia. A whole genome – brain MRI study. 2007-2011, joint PI.
- NRF: Towards personalized therapy for breast cancer. 2008-2012, collaborator.
- *Centre for Biostatistical Modelling in the Medical Sciences* (BMMS) at the University of Oslo: Grant as finalist of the NFR competition for a centre of excellence. 2007-2011.

- NFR: *Statgene*: Statistics for genomic research, 2005-2009. PI. About 7 mil kr in total.
- Marie Curie Industry-Academia Partnerships and Pathways (IAPP) grant, 2008-2010, Total 1 mil Euro. *CLIMATE CHANGE and the INSURANCE INDUSTRY*. Frigessi is PI and leads the network. Partners: Gjensidige, Llyods, London School of Economics.
- Norwegian Research Council grant BeMatA: Statistical model selection, 2003-2006.
- Norwegian Research Council grant: Tracing viral disease dissemination in aquaculture: an interdisciplinary approach between molecular virology and dispersal modelling. 2007-9
- Helse Sør-Ost: Utvikling av statistiske modeller for predikering og reduksjon av fremtidig antibiotikaresistens, 2006-2010, joint PI.
- NFR grant BeMatA: Structured Stochastic Models in Biological Marine Systems, 2000-4.
- PI, Strategic Institute Project on "Knowledge, Data, and Decisions", Norwegian Research Council, 1998-2002, 1,7 million Euro. Leading the project involving about 30 statisticians.
- EU grant STEPICA: The Plague in Central Asia, 2001-2003.
- Member of the steering committee of the scientific programme on "Highly Structured Stochastic Systems", funded by the European Science Foundation for 1993-1995 and 1997-2000. This programme has been central in European statistics.

### **Past professional activities:**

- Chairman of the Scientific Programme Committee, 9th World Congress in Probability and Statistics (IMS and Bernoulli Society), Koç University, Istanbul July 9 to 14, 2012.
- Organiser of the Pre-world congress meeting of young statistician, with focus on participants from the developing countries. Funding from World Bank, Biometrika Trust, Google, and various international scientific societies. Istanbul, July 2012.
- Member of Programme Committee, European meeting of Statistics 2010, Pireus, Greece.
- Member of Programme Committee, NORDSTAT 2010, Voss, Norway.
- Scientific Secretary, Bernoulli Society for Mathematical Statistics and Probability, 2004-8
- Steering committee of the research programme eVITA (e-science), NFR, 2005-2008
- Scientific committee, 7th Bernoulli World Conference, Singapore, 2008
- Scientific committee, 5<sup>th</sup> European Mathematical Conference, Amsterdam, 2008.
- Chairman, organising committee of the 25<sup>th</sup> European Meeting of Statisticians, Oslo 2005
- Member, organising committee, Nordic Meeting International Biometric Society, Oslo 2005
- Scientific committee of the 13<sup>th</sup> conference on Mathematics for Industry, Eindhoven, 2004.
- Member of the scientific committee of EURANDOM, Eindhoven, 2004- 2009.
- Organiser of the European young statisticians training camp to the 25th European Meeting of Statisticians, Oslo, 2005, with funding from the EU
- I have given more than 80 seminars and invited lectures in more than 15 countries.
- Member of the scientific committee of the EU TMR programme, "Spatial and Computational Statistics", 1997-2001. The programme has a budget of circa 19 mil. Euro, for its 7 international nodes. I was leader of the Rome-Oslo node.
- International reviewer of the British EPSRC programme for statistical research (2000)
- World Health Organisation Temporary Adviser on the BIOMED project Disease Mapping and Risk Assessment (1998). Chairing the working group on Ecological Analysis.
- Editor (with Piero Barone and Mauro Piccioni) Lecture Notes in Statistics, Springer Verlag, vol. 74, 1992, "Stochastic models, statistical methods and algorithms in image analysis"
- I have been a member of the scientific committee of more than 20 international conferences and workshops.
- Member of the European Regional Committee of the Bernoulli Society (1999-2002, programme co-ordinator 1999-2000)

- Member of the Steering Committee of the European Network for Business and Industrial Statistics (2001-2002)
- Member of the Norwegian Council for Mathematics (2000-2002).
- Referee for: Journal of Applied Probability, Annals of Statistics, Annals of Applied Probability, Biometrika, Journal of the Royal Statistical Society (series A, B and series C), Journal of Statistical Physics, Scandinavian Journal of Statistics, Journal of the Italian Statistical Society, Statistics and Computing, Stochastic Models, Advances in Applied Probability, Stochastic models: an international journal, IEEE Signal Processing, Biometrical Journal, Extremes, Computational Statistics and Data Analysis, EURASIP JBSB, Statistica Sinica, Nonlinear Processes in Geophysics, BMC Bioinformatics, Statistical Applications in Genetics and Molecular Biology, Bioinformatics, PLOSOne, PLOS Comp Biol, STAT, Quantitative Finance nucleic acids research, EURASIP JBSB and others.
- Member of the evaluation committee of PhDs in Norway (several times), Belgium, Denmark, Italy, Finland, Sweden, Germany. Member of the evaluation committee for professorship in UK, Germany and Finland.
- Referee of research projects for the National Science Foundation (USA), the Israeli Science Foundation, the Swedish Research Council, the Finish Academy of Sciences, the Irish Research Council, the Swiss National Research Council, the Italian Ministry for Education and Research, the University of Copenhagen, the University of Padova, Bocconi University.
- Panel member The University of Copenhagens 2016 Funds Review Panel (400 mil DKR)
- Scientific Evaluation of the Mathematics Institutes of Canada: Fields, CRM, PIMS, 2014
- Evaluator for the Italian ministry of Education, 2012-2013.
- Member of the committee for the appointment of professors and associate professors in the universities of Helsinki, München, Copenhagen, Oslo, Lancaster, Chalmers Gothenburg, Jyväskylä, Aarhus, Warwick.

### **Lectures in 2012**

- 8th World Congress in Statistics and Probability, Istanbul
- ISCB 2012, Bergen
- Structure and uncertainty workshop, Bristol
- University of Bergen
- University of Oslo (several)
- University of Hawassa, Ethiopia
- University of Lancaster

### **Lectures in 2013**

- Dept of Physics, University of Oslo
- SARMA workshop on the Impact of Climate Change, Oslo
- University of Hawassa, Ethiopia
- Ministry of Environment, Oslo
- Forskningsrådets klimakonferanse, Oslo
- S.Co. 2013 COMPLEX DATA MODELING AND COMPUTATIONALLY INTENSIVE STATISTICAL METHODS, Milano. Plenary Invited speaker
- ISO 15926 and Semantic Technologies congress 2013. Invited Speaker

## Lectures in 2014

- MRC Biostatistics Unit Centenary Conference, Cambridge
- CIBB meeting on Computational Issues in Biostatistics at Cambridge
- The Bayesian Biostatistics Conference, Zürich
- Abelsymposium 2014
- Smögen workshop on spatial and large data, 2014
- International symposium on Intelligent Data Analysis. IDA 2014

## Publications

### Peer reviewed journal papers

1. A. Frigessi and C. Vercellis, An Analysis of Monte Carlo Methods for Counting Problems, *Calcolo*, vol. 22, 1986, 413-428
2. A. Frigessi and F. den Hollander, A Stochastic Model for the Membrane Potential of a Stimulated Neurone, *Journal of Mathematical Biology*, n. 6, vol. 27. 1989, 681-692
3. A. Frigessi and M. Piccioni, Parameter Estimation for Two-dimensional Ising Fields Corrupted by Noise, *Stochastic Processes and their Applications*, n. 2, vol. 34, 1990, 297-311
4. P. Barone and A. Frigessi, Improving Stochastic Relaxation for Gaussian Random Fields, *Probability in the Engineering and Informational Sciences*, vol. 4, 1990, 369-381
5. A. Frigessi, C. R. Hwang, S. J. Sheu and P. di Stefano, Convergence Rate of the Gibbs Sampler, the Metropolis Algorithm and Other Single-Site Updating Dynamics, *Journal of the Royal Statistical Society, series B*, vol. 55, n. 1, 1993, 205-219
6. A. Frigessi, C. R. Hwang and L. Younes, Optimal Spectral Structure of Reversible Stochastic Matrices, *Monte Carlo Methods and the Simulation of Markov Random Fields*, *Annals of Applied Probability*, vol. 2, 1992, 610-628
7. P. Ferrari, A. Frigessi, and R. Schonmann, Convergence of Some Partially Parallel Gibbs Sampler with Annealing, *Annals of Applied Probability*, vol. 3, n. 1, 1993, 137-153
8. P. Baldi, A. Frigessi and M. Piccioni, Importance Sampling for Gibbs Random Fields, *Annals of Applied Probability*, vol. 3, 1993, 914-933
9. A. Frigessi, P. Lansky and A. Mariotto, A Stochastic Model for Neuronal Bursting, *BioSystems*, vol. 33, 1-16, 1994
10. A. Frigessi and J. Stander, Informative Markov Random Field Priors for the Bayesian Classification of Satellite Images, *Journal of the American Statistical Association*, vol. 89, 633-641 1994
11. A. Frigessi and F. den Hollander, A Dynamical Phase Transition in a Caricature of a Spin Glass, *Journal of Statistical Physics*, vol. 75, n.3, 1994, 585-625
12. P. Ferrari, A. Frigessi and P. Gonzaga de Sa', Fast MAP Restoration for Noisy Images, *Journal of the Royal Statistical Society, series B*, vol. 57, 485--500, n.3, 1995
13. A. Frigessi and H. Rue, Bayesian Image Classification with Baddeley's Delta Loss, *Journal of Computational Graphics and Statistics*, vol. 6, n.1, 55-73, 1997
14. A. Frigessi, F. Martinelli and J. Stander, Computational complexity of Markov Chain Monte Carlo methods for finite Markov Random Fields, *Biometrika*, n. 84, 1-18, 1997
15. M. di Zio and A. Frigessi, Smoothness in Bayesian Nonparametric regression with wavelets, *Methodology and Computing in Applied Probability*, vol. 1, 395-409, 1999.

16. A. Biggeri, F. Divino, A. Frigessi, A. Lawson, D. Bohning, E. Lesaffre and J.F. Viel, Introduction to Spatial Models in Ecological Studies, in Disease Mapping and Risk Assessment for Public Health, Wiley & Sons, 181-201, 1999.
17. F. Divino, A. Frigessi and P. J. Green, Penalised pseudolikelihood estimation in Markov random field models, *Scandinavian Journal of Statistics*, vol 27, n.3., 445-458, 2000.
18. A. Frigessi, J. Gåsemyr and H. Rue, Antithetic Coupling of two Gibbs Sampler Chains, *Annals of Statistics*, 2000, vol 28, n.4, 1128-1149
19. Ø. Skare, F.E. Benth and A. Frigessi, Smoothed Langevin proposals in Metropolis-Hastings algorithms, *Statistics and Probability Letters*, vol. 49, 345-354, 2000.
20. G. Perminow, A. Rydning, C. D. Jacobsen and A. Frigessi, Gastrointestinale endoskopier av barn, *Tidsskr. Nor. Lægeforen.* 2000, vol. 120, 3503-6. (In Norwegian: Gastrointestinal endoscopy in children)
21. G. Storvik, A. Frigessi and D. Hirst, Space-time Gaussian fields and their time-autoregressive representation, *Statistical Modelling*, 2002, 2, 139-161.
22. X. Dimakos and A. Frigessi, Hierarchical Bayesian Premium Rating with Latent Structure, *Scandinavian Actuarial Journal*, 2002, 3, 162-184.
23. A. Frigessi and N. L. Hjort, Statistical models and methods for discontinuous phenomena, *Journal of Nonparametric Statistics*, 2002, 4, 1-5.
24. A. Frigessi, On some current research in MCMC, in *Highly Structured Stochastic Systems*, Green, Hjort & Richardson eds. Oxford University press, 2003, 1-5.
25. A. Frigessi, O. Haug and H. Rue, A dynamic mixture model for unsupervised tail estimation without threshold selection, *Extremes*, 5 (3), 219 – 236, 2003.
26. K. Heggland and A. Frigessi, Estimating functions in Indirect Inference, *Journal of the Royal Statistical Society, series B*, 66, 447-462, 2004
27. Lina Cekaite, Ola Haug, Ola Myklebost, Magne Aldrin, Bjørn Østenstad, Marit Holden, Arnaldo Frigessi, Eivind Hovig, Mouldy Sioud, Analysis of the humoral immune response to immunoselected phage-displayed peptides by a microarray-based method, *Proteomics*, Vol. 4, n. 9, 2572-2582, 2004.
28. Sæbø, S. and Frigessi A. A Genetic and Spatial Bayesian Analysis of Mastitis Resistance, *Genetics, Selection, Evolution*, vol. 36, n. 5, 527-542, 2004.
29. Engeland K., Hisdal H., Frigessi A., Practical Extreme value Modelling of Hydrological Floods and Droughts: a case study, *Extremes*, 7, 5-30, 2004
30. Arnaldo Frigessi, Clare Marshall, Marit Holden, Hildegunn Viljugrein, Nils Chr. Stenseth, Lars Holden, Vladimir Ageyev and Nikolay L. Klassovskiy, Bayesian population dynamics of interacting species: great gerbils and fleas in Kazakhstan, *Biometrics*. 2005 Mar;61(1):230-8..
31. Kristensen VN, Sorlie T, Geisler J, Yoshimura N, Linejaerde OC, Glad I, Frigessi A, Harada N, Lonning PE, Borresen-Dale AL., Effects of anastrozole on the intratumoral gene expression in locally advanced breast cancer, *J Steroid Biochem Mol Biol.* 2005 May;95(1-5):105-11.
32. Arnaldo Frigessi, Mark A. van de Wiel, Marit Holden, Debbie H. Svendsrud, Ingrid K. Glad and Heidi Lyng. Genome-wide estimation of transcript concentrations from spotted cDNA microarray data. *Nucleic Acids Research*, 2005, Vol. 33, No. 00 e1–13  
doi:10.1093/nar/gni141
33. Ida Scheel, Magne Aldrin, Ingrid K. Glad, Ragnhild Sørum, Heidi Lyng, Arnaldo Frigessi. The influence of missing value imputation on detection of differentially expressed genes from microarray data. *Bioinformatics* 2005 21(23):4272-4279.
34. Mark van de Wiel, Marit Holden, Ingrid K. Glad, Heidi Lyng, Arnaldo Frigessi. Model-based Bayesian analysis of spotted microarray data, in: *Bayesian inference for gene*

expression and proteomics, Peter Müller, Kim-Anh Do, Marina Vannucci editors, Cambridge Univ. Press, 2006

35. Erik G Jönssona, Bodil Edman-Ahlbom, Anna Sillén, Agneta Gunnar, Bettina Kulle, Arnoldo Frigessi, Maria Vares, Birgit Ekholm, Birgitta Wode-Helgodt, Ingrid Agartz, Göran C Sedvall, Håkan Hall, Lars Terenius. Brain-derived neurotrophic factor gene (BDNF) variants and schizophrenia: an association study. *Progress in Neuropsychopharmacology and Biological Psychiatry*, 2006 Jul;30(5):924-33.
36. Perminow, G., Frigessi, A., Rydning, A., Nakstad, B. Vatn. M., Incidence and clinical presentation of IBD in children. Comparison between prospective and retrospective data in a selected Norwegian population. *Scand J Gastroenterol*. 2006 Dec; 41(12):1433-9
37. Agartz I, Sedvall GC, Tereniua L, Kulle B, Frigessi A, Hall H, Jønsson EG. BDNF gene variants and brain morphology in schizophrenia. *American Journal of Medical Genetics Part B: Neuropsychiatric Genetics.*, 2006 Jul 5;141(5):513-23.

## 2007

38. Ragnar Nesvåg, Arnoldo Frigessi, Erik Jönsson, Ingrid Agartz. Effects of alcohol consumption and antipsychotic medication on brain morphology in schizophrenia. *Schizophrenia Research*, 2007 Feb;90(1-3):52-61
39. Aalen OO, Frigessi A., What can statistics contribute to a causal understanding? *Scand. J. Statistics*, 34, 1, March 2007, pp. 155-168
40. Scheel I, Aldrin M, Frigessi A, Jansen PA. A stochastic model for infectious salmon anemia (ISA) in Atlantic salmon farming. *J R Soc Interface*. 2007 Aug 22;4(15):699-706.
41. Bøvelstad, Nygard, Størvold, Aldrin, Borgan, Frigessi. Lingjarde, Predicting survival from microarray data - a comparative study, *Bioinformatics*. 2007 Aug 15;23(16):2080-7.
42. Kyrre Linné Kausrud, Hildegunn Viljugrein, Arnoldo Frigessi, Mike Begon, Stephen Davis, Herwig Leirs Vladimir Dubyanskiy, Nils Chr. Stenseth, Climatically-driven synchrony of gerbil populations allows large-scale plague outbreaks, *Proc Biol Sci*. 2007 Aug 22;274(1621):1963-9.

## 2008

43. B. Kulle, A. Frigessi, H. Edvardsen, V. Kristensen, L. Wojnowski, Accounting for haplotype phase uncertainty in LD estimation, *Genet Epidemiol*. 2008 Feb;32(2):168-78. Erratum in: *Genet Epidemiol*. 2008 Sep;32(6):586-7..
44. Ragnar Nesvåg; Glenn Lawyer; Katarina Varnäs, Anders M Fjell, Kristine B Walhovd, Arnoldo Frigessi, Erik G Jönsson, Ingrid Agartz, Regional thinning of the cerebral cortex in schizophrenia: Effects of diagnosis, age and antipsychotic medication, *Schizophr Res*. 2008 Jan;98(1-3):16-28
45. Cathrine Husberg, Ståle Nygård, Alexandra Vanessa Finsen, Jan Kristian Damås, Arnoldo Frigessi, Erik Øie, Lars Gullestad, Pål Aukrust, Arne Yndestad and Geir Christensen, Cytokine expression profiling of the myocardium reveals a role for CX3CL1 (fractalkine) in heart failure, *J Mol Cell Cardiol*. 2008 Aug;45(2):261-9.
46. Egil Ferkingstad, Arnoldo Frigessi, Haavard Rue, Gudmar, Thorleifsson and Augustine Kong, Unsupervised empirical Bayesian multiple testing with external covariates, *Annals of Applied Statistics*, Volume 2, Number 2 (2008), 714-735.
47. Glenn Lawyer, Ragnar Nesvag, Katarina Varnas Arnoldo Frigessi, Ingrid Agartz, Investigating possible subtypes of schizophrenia patients and controls based on brain cortical thickness. *Psychiatry Res*. 2008 Dec 30;164(3):254-64.
48. Egil Ferkingstad, Arnoldo Frigessi, Heidi Lyng, Indirect genomic effects on survival from gene expression data, *Genome Biology*, 2008 Mar 22;9(3):R58.



49. Vigdis Nygaard, Fang Liu, Marit Holden, Winston P Kuo, Jeff Trimarchi, Lucila Ohno-Machado, Connie L Cepko, Arnaldo Frigessi, Ingrid K Glad, Mark A van de Wiel, Eivind Hovig and Heidi Lyng, Validation of oligoarrays for quantitative exploration of the transcriptome, *BMC Genomics*. 2008 May 30;9:258.

## 2010

50. Aas, K, Czado, C, Frigessi, A, Bakken, H: Pair-copula constructions of multiple dependence, *Insurance: Mathematics and Economics*, 44, 2, 2010, 182-198  
<http://www.sciencedirect.com/science/article/pii/S0167668707000194>
51. Aldrin M, Bard Storvik, Arnaldo Frigessi, Hildegunn Viljugreind, Peder A. Jansen, A stochastic model for the assessment of the transmission pathways of heart and skeleton muscle inflammation, pancreas disease and infectious salmon anaemia in marine fish farms in Norway, *Preventive Veterinary Medicine*, 93, 1, 2010, 51-61.  
<http://www.sciencedirect.com/science/article/pii/S0167587709002645>
52. Frigessi, A, Løland, A, Pievatolo, Ruggeri F., Statistic rehabilitation of improper correlation matrices, *Quantitative Finance*, 11, 7, 1081-1090, 2010.  
<http://www.biomedcentral.com/1471-2105/12/197>
53. Reppe S; Refvem H, Gautvik V, Olstad O, Høvring T, Reinholt P, Holden M, Frigessi A, Jemtland R, Gautvik K, Eight genes are highly associated with BMD variation in postmenopausal Caucasian women. *Bone*. 2010 46(3):604-12.  
<http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0017845>
54. Haff IH, Aas K, Frigessi A., On the simplified pair-copula construction -- simply useful or too simplistic?, *J. Multiv Anal*, 101, 5, 1296-1310, 2010.  
<http://www.sciencedirect.com/science/article/pii/S0047259X09002206>
55. Myhre S, Mohammed H, Tramm T, Alsner J, Finak G, et al. (2010) In Silico Ascription of Gene Expression Differences to Tumor and Stromal Cells in a Model to Study Impact on Breast Cancer Outcome. *PLoS One*. 2010 Nov 19;5(11):e14002  
<http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0014002>
56. Sandve GK, Gundersen S, Rydbeck H, Glad I, Holden L, Holden M, Liestøl K, Clancy T, Ferkingstad E, Johansen M, Nygaard V, Tøstesen E, Frigessi A, Hovig E., The Genomic HyperBrowser: inferential genomics at the sequence level, *Genome Biology*, 2010;11(12):R121.  
<http://genomebiology.com/2010/11/12/R121/>

## 2011

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### **9. Patents:**

#### **10. U.S. Provisional Patent Application Serial No. 61/607,316**

Inventors: Therese Sorlie, Arnaldo Frigessi, Anne-Lise Borresen-Dale, Simen Myhre, Hayat Mohammed, Jens Overgaard, Jan Alsner, Trine Tramm.

Entitled: A GENE SIGNATURE ASSOCIATED WITH EFFICACY OF POSTMASTECTOMY RADIOTHERAPY IN BREAST CANCER

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Provisional Patent number: INVEN-32535/US-1/PRO

The provisional patent application for the gene signature has been filed by Inven2 AS on behalf of Oslo University Hospital and University of Oslo.

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