

# CURRICULUM VITAE

## Antje Hoering

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### Education

<i>University of Washington, Seattle, WA</i>	
<b>Postdoctoral Fellow Biostatistics</b>	1996-1999
<i>Max-Planck-Institute for Nuclear Physics, Heidelberg, Germany</i>	
<b>Ph.D. Physics, cum laude</b>	1991
<i>Oregon State University, Corvallis, Oregon</i>	
<b>M.S. Physics</b>	1988
<i>University of Tübingen, Tübingen, Germany</i>	
<b>B.S. Physics</b>	1985

### Experience

<b><u>CANCER RESEARCH AND BIostatISTICS (CRAB), SEATTLE, WA</u></b>	
<b>Chief Scientific Officer and Vice President</b>	Since 01/2013
<b>Senior Biostatistician</b>	11/2004 – 12/2012

### **Collaborative Clinical Research**

Lead Statistician, SWOG Myeloma Committee.

Lead Statistician, SWOG Early Therapeutics Subcommittee.

Lead Statistician, Stand Up To Cancer, Pancreatic Dream Team.

Co-Director, Biostatistics Core, Sarcoma SPORE.

Coordinating Statistician, Myeloma Institute for Research and Therapy, University of Arkansas, statistics core for P01 grant.

Coordinating Statistician, International Myeloma Foundation.

Coordinating Statistician, Pancreatic Cancer Research Team.

Provide statistical guidance and write statistics sections for P01, R01 and SPORE grants.

Statistical Consultant on various industry-sponsored oncology clinical trials (phase I – phase III), including Celator, Novartis, Jennerex, Oncotherapeutics, Venti Rx, ParinGenix.

Write and oversee writing of Statistical Analysis Plans (SAP) for critical phase II and phase III oncology trials; including a SAP for a phase III FDA-directed study.

Provide statistical input to SPA Briefing Package.

Serve as biostatistics representative to Type B meetings with the FDA:

- For SWOG Myeloma Committee, 2009
- For Celator, 2011

**Methodological Research**

Design considerations of phase I, II and III oncology clinical trials for targeted therapies.

**Other Responsibilities**

Supervise, manage and mentor biostatisticians, programmers and biostatistics summer interns.

Lead efforts for CRAB statistics team to become 21 CFR Part 11 compliant.

Mentor new medical doctor in the SWOG Myeloma committee at the SWOG Young Investigator Course, 2010, 2012.

Coordinator of SWOG Young Investigator Course (SWOG Clinical Trials Training Course and Protocol Development), 2011, 2012.

Instructor at Summer Institute in Biostatistics, University of Washington. Taught 2.5-day intensive workshop on “Design of Clinical Trials in Oncology”, August 2012.

**External Professional Activities****Editorial**

Associate Editor, Statistics in Biopharmaceutical Research

Statistical Reviewer, Clinical Cancer Research.

Reviewer, Clinical Trials.

Reviewer, Leukemia.

Reviewer, Statistics in Medicine.

**Other Professional Activities**

Member, NCI Myeloma Steering Committee, since 2010.

Member, DSMB committee, University of Utah School of Medicine, since 2010.

Reviewer, European Commission for Medical Research; Brussels, Belgium, since 2010.

Reviewer, National Cancer Institute, since 2009.

Reviewer, Baylor Cancer Center research grant, 2011.

Secretary, WNAR (Western North American Region of the International Biometrics Society), 2006 – 2011.

**DIVISION OF PUBLIC HEALTH SCIENCES, FRED HUTCHINSON CANCER RESEARCH CENTER, SEATTLE, WA**

**Affiliate Investigator**

Since 3/2005

**DEPARTMENT OF BIostatISTICS, UNIVERSITY OF WASHINGTON, SEATTLE, WA**

**Affiliate Assistant Professor**

Since 2/2006

**CANCER CENTER STATISTICS, SECTION OF BIostatISTICS AND MAYO MEDICAL SCHOOL, MAYO CLINIC, ROCHESTER, MN**

**Senior Research Associate**

7/2003 – 10/2004

**Assistant Professor**

7/2004 – 10/2004

**Collaborative Clinical Research**

Lead statistician on phase I, phase II, and phase III clinical trials in hematologic malignancies and breast cancer.

Provided statistical guidance and wrote statistics sections on several R01 grant proposals.

**Methodological Research**

Mixed-effect Cox model for case cohort designs with pedigree data.

**Committee Membership**

Statistical Representative to the NCCTG Gender and Ethnic Diversity Committee.

**INSIGHTFUL CORP., SEATTLE, WA****Research Scientist I**

5/1999 – 12/2001

**Research Scientist II**

1/2002 – 6/2003

**Principal Investigator** on NIH funded SBIR grant, phase II: *Mendelian Model Based Inference in Statistical Genetics*. Designed and developed comprehensive, easy-to-use toolkit for analyzing human genetic data. Specifically, software for linkage analysis, linkage disequilibrium analysis, Hardy-Weinberg testing and pedigree plotting routine are features of this software package.

**Principal Investigator** on NIH funded SBIR grant, phase I: *Mendelian Model Based Inference in Statistical Genetics*. Prototyped and tested feasibility for developing software for analyzing human genetic data. Specifically: prototyped software for linkage analysis and exact Hardy-Weinberg testing.

**Principal Investigator** on NIH funded SBIR grant, phase I: *S + cDNA: Analysis Tools for cDNA Microarray Data*. Designed and prototyped software package for the analysis of cDNA microarray data. Specifically, included several segmentation algorithms for image analysis; and gene shaving for clustering gene expression data with similar expression levels.

**Investigator** on NIH funded SBIR grant, phase II: *Mixed Effects Multidimensional Scaling (MDS)*. Designed and developed software for non-linear mixed effect models used in MDS – a psychometric method with wide applications in behavioral science research.

**DEPARTMENT OF BIostatISTICS, UNIVERSITY OF WASHINGTON AND FRED HUTCHINSON  
CANCER RESEARCH CENTER, SEATTLE, WA****Senior Fellow/Postdoctoral Trainee**

6/1996 – 4/1999

**Course Work**

Completed core courses in statistics and biostatistics required for a Ph.D. in biostatistics.

**Methodological Research**

Designed new statistical methods that allow for a direct assessment of the impact of an HIV vaccine on disease progression among infected vaccines.

Evaluated new statistical methods for the analysis of viral load data in HIV and Hepatitis C infected patients after initiation of antiviral therapy.

**Applied Research**

Performed data analysis on longitudinal data obtained on different outcome variables in HIV patients after initiation of treatment.

Provided statistical guidance and wrote statistical section for a Phase II clinical trial designed to determine efficacy of varying doses of lamivudine for HBV infected individuals.

**EUROPEAN CENTER FOR THEORETICAL STUDIES IN NUCLEAR PHYSICS AND RELATED AREAS,  
ECT\*, TRENTO, ITALY**

**Research Associate**

11/1995 – 5/1996

**Research in Theoretical Physics**

Continued research on proton decay (c.f. below).

Investigated the effect of weaker statistical nuclear states on stronger non-statistical nuclear states.

**DEPARTMENT OF PHYSICS, UNIVERSITY OF WASHINGTON, SEATTLE, WA**

**Postdoctoral Research Associate (11/1991 – 3/1993)**

**Research Assistant Professor (4/1993 – 10/1995)**

11/1991 – 10/1995

**Research at the National Institute for Nuclear Theory**

Evaluated the probability for a particular mode of proton decay which is greatly favored in supersymmetric grand unified theories. Calculated the sensitivity limit of SuperKamiokande, a large Čerenkov detector, in which such a decay can possibly be observed.

Developed mathematical model to deduce an upper bound on hadronic interactions that violate time-reversal invariance. Improved existing limits on this interaction by two orders in magnitude.

**Research at the Applied Physics Laboratory**

Developed a theoretical model to describe internal ocean waves using differential equations. The model predicted some distinct differences from surface waves. These results stimulated new experiments which were performed in the Fall of 1995.

**Teaching**

Taught two courses for upper division physics majors preparing to be high school science teachers (Winter 95, Spring 96).

Tutored students and organized seminars in the program on Research Experience for Undergraduates. (Summer 96).

Taught tutorial sessions as part of introductory physics classes (Fall 95 through Spring 96).

**Other Responsibilities**

Implemented and managed World-Wide-Web page for the Institute for Nuclear Theory.

Referee for Physical Review C, Physical Review D, and Nuclear Physics A.

**MAX PLANCK INSTITUTE FOR NUCLEAR PHYSICS, HEIDELBERG, GERMANY**

**Research Assistant**

1/1989 – 10/1991

**Ph.D. Thesis Research**

Developed stochastic model to describe gamma emission in pre-equilibrium nuclear reactions.

Performed numerical calculations based on my analytical expression.

Found excellent agreement with existing data and made predictions for future experiments.

**Funding History - Statistical Methods Grants Only***"Statistical Methods for Clinical Studies", NIH/NCI 2 R01 CA090998-06A2 (\$567,000)***Co-Investigator, Principal Investigator:** Mike LeBlanc 3/2008 – 7/2012*"Mendelian Model Based Inference in Statistical Genetics", NIH/NIGMS 2 R44 GM60896-02 (\$749,755)***Principal Investigator** 5/2002 – 4/2004*"S+cDNA: Analysis Tools for Microarray Data", NIH/NCI 1 R43 CA91631-01 (\$103,980)***Principal Investigator** 9/2001 – 9/2002*"Mendelian Model Based Inference in Statistical Genetics", NIH/NCI 1 R43 GM60896-01 (\$100,912)***Principal Investigator** 3/2000 – 8/2001**Fellowships***"Statistical Methods for Analyses of HIV Vaccine Trials", NIH/NIAID, Sponsor: Steven G. Self, Principal Investigator: Antje Hoering. 1 F32 A109651 (\$101,600)***NRSA Postdoctoral Fellow** 9/1996 – 4/1999*"Clinical Research on AIDS Training Grant", NIH/NIAID, Principal Investigator: Thomas R. Fleming. 1 T32 A107450***NRSA Postdoctoral Fellow** 6/1996 – 8/1996*Max Planck Society, Germany***Predocctoral Fellow** 1/1989 – 10/1991*International Exchange Program, University of Tübingen***Fellow** 7/1986 – 7/1987**Societies**

American Association for Cancer Research

American Statistical Association

International Biometrics Society

International Myeloma Society

**Bibliography****Publications in referred journals:**

1. **Höring A**, Weidenmüller HA (1992)<sup>+</sup>. Gamma Emission in Precompound Reactions, I. Statistical Model and Collective Gamma Decay. *Physical Review C* 46:2476-2492. PMID: 9968379
2. Herman M, **Höring A**, Reffo G (1992)<sup>+</sup>. Gamma Emission in Precompound Reactions II. Numerical Application. *Physical Review C* 46:2493-2500. PMID: 9968379
3. Haxton WC, **Hoering A** (1993)<sup>+</sup>. Time-reversal-noninvariant, Parity-conserving Nuclear Interactions. *Nuclear Physics A* 560:469-482. [www.sciencedirect.com](http://www.sciencedirect.com)

<sup>+</sup> Authors appear alphabetically; standard in Physics

4. Haxton WC, **Höring A**, Musolf MJ (1994)<sup>+</sup>. Constraints on T-odd and P-even Hadronic Interactions from Nucleon, Nuclear, and Atomic Electric Dipole Moments. *Physical Review D* 50:3422-3432. PMID: 10017977
5. Henyey FS, **Hoering A** (1997)<sup>+</sup>. Energetics of Bore-Like Internal Waves. *Journal of Geophysical Research* 102:3323-3330. <http://www.agu.org/servlet/EASI/search>
6. Seth A, Markee J, **Hoering A**, Sevin A, Sabath DE, Schmitz JE, Kuroda MJ, Lifton MA, Hirsch MS, Collier AC, Letvin NL, McElrath MJ (2001). Alterations in T Cell Phenotype and Human Immunodeficiency Virus Type 1-Specific Cytotoxicity After Potent Antiretroviral Therapy. *Journal of Infectious Disease* 183(5):722-729. PMID: 11181148
7. Hudgens\* M, **Hoering\*** A, Self S (2003). On the analysis of viral load endpoints in HIV vaccine trials. *Statistics in Medicine* 22(14):2281-2298. PMID: 12854093
8. Eckel-Passow J, **Hoering A**, Therneau TM, Ghobrial I (2005). Experimental design and analysis of antibody microarrays: applying methods from cDNA arrays. *Cancer Research* 65(8):2985-2989. PMID: 15833819
9. McClure RF, Remstein ED, Macon WR, Dewald GW, Habermann TA, **Hoering A**, Kurtin PJ (2005). Adult B-cell Lymphomas with Burkitt-like morphology are phenotypically and genotypically heterogeneous with aggressive clinical behavior. *The American Journal of Surgical Pathology* 29(12):1652-1660. PMID: 16327438
10. Litzow M, Dietz A, Bulur P, Butler G, Gastineau D, **Hoering A**, Fink S, Letendre L, Padley D, Paternoster S, Tefferi A, VucPavlovic S (2006). Testing the safety of clinical-grade mature autologous myeloid DC in a phase I clinical immunotherapy trial of CML. *Cytotherapy* 8(3):290-298. PMID: 16793737
11. Moreno-Aspito A, Colon-Otero G, **Hoering A**, Geyer S, Yang-Li C, Witzig T, Niedringhaus RD, Vuvok A, Morton R, Fitch T, Addo FE, Dakhil SR, Tschetter L, Tefferi A (2006). Thalidomide Therapy in Adult Patients with Myelodysplastic Syndrome: A North Central Cancer Treatment Group Phase II Trial. *Journal of the American Cancer Society* 107(4):767-772. PMID: 16826578
12. Barlogie B, Tricot GJ, van Rhee F, Angtuaco E, Walker R, Epstein J, Shaughnessy JD Jr., Jagannath S, Bolejack V, Gurley J, **Hoering A**, Vesole D, Desikan R, Siegel D, Mehta J, Singhal S, Munshi NC, Dhodapkar M, Jenkins B, Attal M, Harousseau JL, Crowley J (2006). Long-Term Outcome Results of the First Tandem Autotransplant Trial for Multiple Myeloma. *British Journal of Haematology* 135:158-164. PMID: 16939489
13. Walker R, Barlogie B, Haessler J, Tricot G, Anaissie E, Shaughnessy JD Jr., Epstein J, van Hermet R, Erdem E, **Hoering A**, Crowley J, Ferris E, Hollmig K, van Rhee F, Zangri M, Pineda-Roman M, Hohiuddin A, Yaccoby S, Sawyer J, Angtuaco EJ (2007). Magnetic resonance imaging in multiple myeloma: diagnostic and clinical implications. *Journal of Clinical Oncology* 25(9):1121-8. PMID: 17296972
14. **Hoering A**, Crowley J (2007). Clinical Trial Designs for Multiple Myeloma. *Clinical Advances in Hematology & Oncology* 5(4):309-318. PMID: 1760790

<sup>+</sup> Authors appear alphabetically; standard in Physics

\* Authors contributed equally

15. Haessler J, Shaughnessy JD Jr., Zhan F, Crowley J, Epstein J, van Rhee F, Anaissie E, Pineda-Roman M, Zangari M, Hollmig K, Mohiuddin A, Alsayed Y, **Hoering A**, Tricot G, Barlogie B (2007). Benefit of complete response in multiple myeloma limited to high-risk subgroup identified by gene expression profiling. *Clinical Cancer Research* 13(23):7073-7079. PMID: 18056185
16. Arzoumanian V, **Hoering A**, Sawyer J, van Rhee F, Bailey C, Gurley J, Shaughnessy JD Jr., Anaissie E, Crowley J, Barlogie B (2008). Suppression of abnormal karyotype predicts superior survival in multiple myeloma. *Leukemia* 22(4):850-855. PMID: 18200039
17. **Hoering A**, LeBlanc M, Crowley J (2008). Randomized phase III clinical trial designs for targeted agents. *Clinical Cancer Research* 14(14):4358-4367. PMID: 18628448
18. Van Ness B, Ramos C, Hazander M, **Hoering A**, Haessler J, Crowley J, Jacobus S, Oken M, Rajkumar V, Greipp P, Barlogie B, Durie B, Katz M, Atluri G, Fang G, Gupta R, Steinbach M, Kumar V, Mushlin R, Johnson D, Morgan D (2008). Genomic variation in myeloma: design, content, and initial application of the Bank On A Cure SNP panel to detect associations with progression free survival. *BioMed Central* 6(1):26. PMID: 18778477
19. Barlogie B, van Rhee F, Shaughnessy JD Jr., Epstein J, Yaccoby S, Pineda-Roman M, Hollmig K, Alsayed Y, **Hoering A**, Szymonifka J, Aniassie E, Petty N, Kumar NS, Srivastava G, Jenkins B, Crowley J, Zeldis JB (2008). Seven year median time to progression with thalidomide for smoldering myeloma: partial response identifies subset requiring earlier salvage therapy for symptomatic disease. *Blood* 112(8):3122-3125. PMID: 18669874
20. Johnson DC, Corthals S, Ramos C, **Hoering A**, Cocks K, Dickens NJ, Haessler J, Goldschmidt H, Child JA, Bell SE, Jackson G, Baris D, Rajkumar SV, Daives FE, Durie BG, Crowley J, Sonneveld P, Van Ness B, Morgan GJ (2008). Genetic associations with thalidomide mediated venous thrombotic events in myeloma identified using targeted genotyping. *Blood* 112(13):4924-34. PMID: 18805967
21. Tricot G, Barlogie B, Zangari M, van Rhee F, **Hoering A**, Szymonifka J, Cottler-Fox M (2008). Mobilization of peripheral blood stem cells in myeloma with either pegfilgrastim or filgrastim following chemotherapy. *Haematologica* 93(11):1739-1742. PMID: 18728024
22. Pineda-Roman M, Zangari M, van Rhee F, Anaissie E, Szymonifka J, **Hoering A**, Petty N, Crowley J, Shaughnessy JD Jr., Epstein J, Barlogie B (2008). VTD combination therapy with bortezomib-thalidomide-dexamethasone is highly effective in advanced and refractory multiple myeloma. *Leukemia* 22(7):1419-1427. PMID: 18432260
23. van Rhee F, Dhodapkar M, Shaughnessy JD Jr., Anaissie E, Siegel D, **Hoering A**, Zeldis J, Jenkins B, Singhal S, Mehta J, Crowley J, Jagannath S, Barlogie B (2008). First thalidomide clinical trial in multiple myeloma: a decade later. *Blood* 112(4):1035-1038. PMID: 18502827
24. Dhodapkar MV, **Hoering A**, Gertz MA, Rivkin S, Szymonifka J, Crowley J and Barlogie B (2008). Long term survival in Waldenstrom Macroglobulinemia - 10 year follow-up of Southwest Oncology Group-directed intergroup trial S9003. *Blood* 113(4):793-796. PMID: 18931340

25. Barlogie B, Tricot G, Haessler J, van Rhee F, Cottler-Fox M, Waldron J, Pineda-Roman M, Thertulien R, Zangari M, Hollmig K, Mohiuddin A, Alsayed Y, **Hoering A**, Crowley J, Saywer J (2008). Cytogenetically defined myelodysplasia after melphalan-based autotransplants for multiple Myeloma linked to poor hematopoietic stem cell mobilization: the Arkansas experience in more than 3000 patients treated since 1989. *Blood* 111(1):94-100. PMID: 17895401
26. Nair B, Shaughnessy JD Jr., Zhou Y, Astrid-Cartron M, Qu P, van Rhee F, Anaissie E, Alsayed Y, Waheed S, Hollmig K, Szymonifka J, Petty N, **Hoering A**, Barlogie B (2009). Gene expression profiling of plasma cells at myeloma relapse from total therapy 2 predicts subsequent survival. *Blood* 113(26):6572-6575. PMID: 19389881
27. **Hoering A**, Crowley J, Shaughnessy JD Jr., Hollmig K, Alsayed Y, Szymonifka J, Waheed S, Nari B, van Rhee F, Anaissie E, Barlogie B (2009). Complete remission in multiple myeloma examined as time-dependent variable in terms of both onset and duration in total therapy protocols. *Blood* 114(7):1299-1305. PMID: 19515721
28. Durie BG, Van Ness B, Ramos C, Stephens O, Haznadar M, **Hoering A**, Haessler J, Katz MS, Mundy GR, Kyle RA, Morgan GJ, Crowley J, Barlogie B, Shaughnessy J Jr.(2009). Genetic polymorphisms of EPHX1, Gsk3beta, TNFSF8 and myeloma cell DKK-1 expression linked to bone disease in myeloma. *Leukemia* 23(10):1913-1919. PMID: 19657367
29. Nair B, van Rhee F, Shaughnessy JD Jr., Anaissie E, Szymonifka J, **Hoering A**, Alsayed Y, Waheed S, Crowley J, Barlogie B (2010). Superior results of total therapy 3 (2003-33) in gene expression profiling-defined low-risk multiple myeloma confirmed in subsequent trial 2006-66 with bortezomib, lenalidomide and dexamethasone (VRD) maintenance. *Blood* 115(21):4168-4173. PMID: 20124509
30. van Rhee F, Szymonifka J, Anaissie E, Nair B, Waheed S, Alsayed Y, Petty N, Shaughnessy JD Jr., **Hoering A**, Crowley J, Barlogie B (2010). Total therapy 3 for multiple myeloma: prognostic implications of cumulative dosing and premature discontinuation of VTD maintenance components, bortezomib, thalidomide and dexamethasone, relevant to all phases of therapy. *Blood* 116(8):1220-7. PMID: 20501894
31. Barlogie B, Anaissie E, van Rhee F, Shaughnessy JD Jr., Szymonifka J, **Hoering A**, Petty N, Crowley J (2010). Reiterative survival analyses of total therapy 2 for multiple myeloma elucidate follow-up time dependency of prognostic variables and treatment arms. *Journal of Clinical Oncology* 28(18):3023-3027. PMID: 20479421
32. Waheed S, Shaughnessy JD, van Rhee F, Alsayed Y, Nair B, Anaissie E, Szymonifka J, **Hoering A**, Crowley J, Barlogie B (2011). International staging system and metaphase cytogenetic abnormalities in the era of gene expression profiling data in multiple myeloma treated with total therapy 2 and 3 protocols. *Cancer* 117(5):1001-1009. PMID: 20945320.
33. **Hoering A**, LeBlanc M, Crowley J (2011). Seamless phase I/II trial design for assessing toxicity and efficacy for targeted agents. *Clin Cancer Research* 17(4):640-646. PMID: 21135145
34. Kumar SK, Lee JH, Lahuerta JJ, Morgan G, Richardson PG, Crowley J, Haessler J, Feather J, **Hoering A**, et al. (2012). Risk of progression and survival in multiple myeloma relapsing after therapy with IMiDs and bortezomib: A multicenter international myeloma working group study. *Leukemia* 26(1):149-157. PMID: 21799510



35. Garg TK, Szmania SM, Khan JA, **Hoering A**, Malbrough PA, Moreno-Bost A, Greenway AD, Lingo JD, Li X, Yaccoby S, Suva LJ, Storrie B, Tricot G, Campana D, Shaughnessy JD Jr, Nair BP, Bellamy WT, Epstein J, Barlogie B, van Rhee F (2012). Highly activated and expanded natural killer cells for multiple myeloma immunotherapy. *Haematologica* (9):1348-56. PMID: 22419581; PMCID: PMC3436235.
36. Usmani SZ, Nair B, Qu P, Hansen E, Zhang Q, Petty N, Waheed S, Shaughnessy JD Jr, Alsayed Y, Heuck CJ, van Rhee F, Milner T, **Hoering A**, Szymonifka J, Sexton R, Sawyer J, Singh Z, Crowley J, Barlogie B (2012). Primary plasma cell leukemia: clinical and laboratory presentation, gene-expression profiling and clinical outcome with Total Therapy protocols. *Leukemia* 26(11):2398-405. PMID: 22508408; PMCID: PMC3426639.
37. Usmani SZ, Sexton R, **Hoering A**, Heuck CJ, Nair B, Waheed S, Al Sayed Y, Chauhan N, Ahmad N, Atrash S, Petty N, van Rhee F, Crowley J, Barlogie B (2012). Second malignancies in total therapy 2 and 3 for newly diagnosed multiple myeloma: influence of thalidomide and lenalidomide during maintenance. *Blood* 120(8):1597-600. PMID: 22674807; PMCID: PMC3429303.
38. Usmani SZ, Heuck C, Mitchell A, Szymonifka J, Nair B, **Hoering A**, Alsayed Y, Waheed S, Haider S, Restrepo A, Van Rhee F, Crowley J, Barlogie B (2012). Extramedullary disease portends poor prognosis in multiple myeloma and is over-represented in high-risk disease even in the era of novel agents. *Haematologica* 97(11):1761-7. PMID: 22689675; PMCID: PMC3487453.
39. Usmani SZ, Crowley J, **Hoering A**, Mitchell A, Waheed S, Nair B, Alsayed Y, Vanrhee F, Barlogie B (2013). Improvement in long-term outcomes with successive Total Therapy trials for multiple myeloma: are patients now being cured? *Leukemia* 27(1):226-32. PMID: 22705990.
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41. Usmani SZ, Mitchell A, Waheed S, Crowley J, **Hoering A**, Petty N, Brown T, Bartel T, Anaissie E, van Rhee F, Barlogie B (2013). Prognostic implications of serial 18-fluorodeoxyglucose emission tomography in multiple myeloma treated with Total Therapy 3. *Blood* [Epub ahead of print] PMID: 23305732.
42. Stone K, Woods E, Szmania SM, Stephens OW, Garg TK, Barlogie B, Shaughnessy JD Jr, Hall B, Reddy M, **Hoering A**, Hansen E, van Rhee F (2013). Interleukin-6 Receptor Polymorphism Is Prevalent in HIV-negative Castleman Disease and Is Associated with Increased Soluble Interleukin-6 Receptor Levels. *PLoS One* 8(1):e54610. Epub 2013 Jan 23. PMID: 23372742.
43. **Hoering A**, Mitchell A, Leblanc M, Crowley J (2013). Early phase trial design for assessing several dose levels for toxicity and efficacy for targeted agents. *Clin Trials*. 2013;10(3):422-9. doi: 10.1177/1740774513480961. PMID: 23529697.

44. Usmani SZ, Sawyer J, Rosenthal A, Cottler-Fox M, Epstein J, Yaccoby S, Sexton R, **Hoering A**, Singh Z, Heuck CJ, Waheed S, Chauhan N, Johann D, Abdallah AO, Muzaffar J, Petty N, Bailey C, Crowley J, van Rhee F, Barlogie B. Risk Factors for MDS and Acute Leukemia Following Total Therapy 2 and 3 for Multiple Myeloma. *Blood*. [Epub ahead of print] PMID: 23603914.
45. Papanikolaou X, Szymonifka J, Rosenthal A, Heuck CJ, Mitchell A, Johann D, Keller J, Waheed S, Usmani SZ, van Rhee F, Bailey C, Petty N, **Hoering A**, Crowley J, Barlogie B (2013). Metronomic therapy is an effective salvage treatment for heavily pretreated relapsed/refractory multiple myeloma. *Haematologica*. [Epub ahead of print] PMID: 23716540.

#### **Books and edited volumes:**

1. Stanford DC, Clarkson DB, **Hoering A**. Clustering or Automatic Class Discovery: Hierarchical Methods. In: Berrar DP, Dubitzky W, and Granzow M, editors. *A Practical Approach to Microarray Data Analysis*. London: Kluwer; 2002.
2. Crowley J, **Hoering A**, editors. *Handbook of Statistics in Clinical Oncology*. Third edition. Boca Raton. Chapman & Hall/CRC; 2012.
3. **Hoering A**, LeBlanc M, Crowley J. Seamless phase I/II trial design for assessing toxicity and efficacy for targeted agents. In Crowley J, **Hoering A**, editors. *Handbook of Statistics in Clinical Oncology*. Third edition. Boca Raton. Chapman & Hall/CRC; 2012.
4. **Hoering A**, LeBlanc M, Crowley J. Phase III trials for targeted agents. In Crowley J, **Hoering A**, editors. *Handbook of Statistics in Clinical Oncology*. Third edition. Boca Raton. Chapman & Hall/CRC; 2012.

#### **Submitted:**

1. LeBlanc M, **Hoering A**, Redman M, Crowley J. (2012). Data based targeting in Phase III clinical trials. Submitted to *Biometrics*.

#### **Conference proceedings:**

1. **Höring A**, Weidenmüller HA, Dietrich FS, Herman M, Reffo G (1990). A Study of Reaction Mechanisms for Gamma Production in Fast-Nucleon Induced Reactions, AIP Conference Proceedings, Capture Gamma-Ray Spectroscopy and Related Topics-1990 (International Symposium, Asilomar, California). PMID: n/a
2. **Hoering A**, Clarkson BD, Gonzales R (2001). Random Effects Multidimensional Unfolding Models. *Joint Statistical Meeting*:276-281. [www.amstat.org](http://www.amstat.org)
3. Mandrekar S, Geyer S, Suman V, Ballman K, **Hoering A**, Sargent D (2004). Clinical Trial Designs for Dose-seeking, Non-MTD Trials with Biomarker Endpoints, *Joint Statistical Meeting*. Toronto, Canada. Oral Presentation.
4. Slager S, McDonnell SK, Pankratz VS, **Hoering A**, Therneau TM, de Andrade M (2006). Evaluation of Three Approaches to Correct for Ascertainment of Pedigrees for Random-Effects Cox Proportional Hazard Linkage Analysis. *Joint Statistical Meeting*. Seattle, WA. Oral Presentation.

**Publications about my work:**

1. Karow J. Statistics Software Firms Size up Genomics; Three Micorarray Products Due to Launch. Bioinform July 15, 2002, [www.bioinform.com](http://www.bioinform.com).
2. Insightful wins \$750,000 SBIR Grant for Genomic Mining. July 2, 2002, [www.genomeweb.com](http://www.genomeweb.com).

**Others:**

1. **Höring A.** Application of the Schematic Model to Four-Quasiparticle States. Master Thesis, University of Oregon, Corvallis, Oregon, 1988.
2. **Höring A.** Dipole-Gamma Emission in Pre-Equilibrium Nuclear Reactions (in German). Ph.D. Thesis, University of Heidelberg, Heidelberg, Germany, 1991.
3. Clarkson DB, **Hoering A** (2002). S+GeneExpress Preliminary Library Design, Technical Report, Insightful Corporation, Seattle, WA.

**Presentations**

- 10/90: Oregon State University, Corvallis, Oregon,  
*"Gamma Emission in Statistical Nuclear Reactions"*.
- 10/90: LBL, Berkeley, California,  
*"Gamma Emission in Statistical Nuclear Reactions"*.
- 10/90: Asilomar, Conference on Capture Gamma Ray Spectroscopy (poster),  
*"A Study of Reaction Mechanism for Gamma Production in Fast-Nucleon Induced Reactions"*.
- 4/91: Michigan State University, East Lansing, Michigan,  
*"Gamma Emission in Precompound Nuclear Reactions"*.
- 6/91: University of Heidelberg, Heidelberg, Germany,  
*"Dipole-Gamma Emission in Pre-Equilibrium Reactions"*.
- 8/91: University of Heidelberg, Symposium on Theoretical Nuclear Physics in East and West Germany, *"Dipole-Gamma Emission in Pre-Equilibrium Reactions"*.
- 5/92: University of Washington, Seattle, Washington,  
*"Characterization of Spectral Fluctuations"*.
- 10/93: MPI, Heidelberg, Symposium on Fluctuations, Chaos and Symmetries,  
*"Time-Reversal Noninvariant, Parity Conserving Nuclear Interactions"*.
- 5/94: APL, University of Washington, Seattle, Washington,  
*"Energetics of an Internal Bore"*.
- 8/94: INT, Program on Applications of Chaos in Many-Body Quantum Physics,  
*"Constraints on T-odd and P-even Hadronic Interactions"*.
- 2/95: TRIUMP, Vancouver, Canada,  
*"Constraints on T-odd and P-even Hadronic Interactions"*.
- 3/95: Argonne National Laboratory, Chicago, Illinois,  
*"Constraints on T-odd and P-even Hadronic Interactions"*.
- 3/95: Indiana University, Bloomington, Indiana,  
*"Constraints on T-odd and P-even Hadronic Interactions"*.

- 2/96: European Center for Theoretical Studies in Nuclear Physics, ECT\*,  
*"From Chaos to Breaking of Time-Reversal Invariance"*.
- 2/99: Insightful Corporation, Seattle, WA,  
*"On the Use of Viral Endpoints in HIV Vaccine Efficacy Trials"*.
- 3/99: MD Anderson Cancer Research Center, Houston, TX,  
*"On the Use of Viral Endpoints in HIV Vaccine Efficacy Trials"*.
- 8/01: Joint Statistical Meeting, Atlanta, Georgia,  
*"Random Effects Multidimensional Unfolding Models"*.
- 11/02: Northwestern University, Chicago, IL,  
*"On the Use of Viral Endpoints in HIV Vaccine Efficacy Trials"*.
- 11/02: Mayo Clinic, Rochester, MN,  
*"On the Use of Viral Endpoints in HIV Vaccine Efficacy Trials"*.
- 7/04: Cancer Research And Biostatistics, Seattle, WA,  
*"Mixed Effects Cox Model and Ascertainment Effects"*.
- 6/06: International Myeloma Workshop, Kos, Greece,  
*"Clinical Trial Designs for Multiple Myeloma"*.
- 7/07: Fred Hutchinson Cancer Research Center, Seattle, WA,  
*"Phase III Trial Design for Targeted Therapies"*.
- 9/07: Biostatistics Departmental Retreat, University of Washington, WA,  
*"Statistics at CRAB and Clinical Trial Designs for Targeted Therapies"*.
- 10/07: Southwest Oncology Group Meeting, Huntington Beach, CA,  
*"Statistical Analyses for Bank on a Cure, a Myeloma-Specific DNA Bank"*.
- 5/08: Southwest Oncology Group Meeting Plenary Session, Atlanta, GA,  
*"Randomized Phase III Clinical Trial Designs for Targeted Agents"*.
- 6/10: American Society of Clinical Oncology, Annual Meeting, Chicago, Illinois  
*"Genomic Evolution in Total Therapy 2 and Total Therapy 3 for Newly Diagnosed Multiple Myeloma"*.
- 6/10: Western North American Region of the International Biometrics Society, Seattle, WA,  
*"Seamless Phase I/II Trial Design for Targeted Agents"*.
- 12/10: American Society of Hematology, Annual Meeting, Orlando, FL, *"Prognostic Index for Predicting Overall Survival and Event-Free Survival in Total Therapy 3 Patients"*.
- 3/11: Clinical Trials Affinity Group, Fred Hutchinson Cancer Research Center, Seattle, WA,  
*"Randomized Phase III clinical Trial Designs for Targeted Agents"*.
- 2/12: Department of Biostatistics, Departmental Seminar, University of Washington, Seattle, WA, *"Randomized Phase III clinical Trial Designs for Targeted Agents"*.
- 10/12: Beijing University of Chinese Medicine, Beijing, China, *"Design of Cancer Clinical Trials, Phase I-III"*.
- 10/12: Beijing University of Chinese Medicine, Beijing, China, *"Phase III Oncology Clinical Trials in the Era of Targeted Agents"*.