

**CURRICULUM VITAE****Dr. Jan F. Prins**

December 2016

Department of Computer Science  
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**Education**

Ph.D.	1987	Computer Science	Cornell University
	1986-87	Programming Languages Group	Univ. of Wisconsin at Madison
	1983-84	Programming Research Group	Oxford University, UK
M.Sc.	1983	Computer Science	Cornell University
B.Sc.	1978	Mathematics (Honors)	Syracuse University

My thesis research was supervised by David Gries at Cornell University and described a framework for reusability and rapid prototyping in program development; my minor concentration was in neurobiology. I was a member of the Programming Research Group at Oxford University during the 1983-84 academic year and spent an undergraduate year in 1977 at the Technische Hogeschool Eindhoven (The Netherlands) with the research group directed by Edsger Dijkstra.

**Academic Experience**

5/10 – Research Fellow, Renaissance Computing Institute (RENCI), Chapel Hill, NC.  
 7/04–6/09 Department Chair, Department of Computer Science, University of North Carolina at Chapel Hill.  
 4/01– Faculty member, Program in Bioinformatics and Computational Biology, UNC-Chapel Hill.  
 5/98– Faculty member, Program in Molecular and Cellular Biophysics, UNC-CH.  
 7/96–7/97 Visiting Professor, Institute for Theoretical Computer Science, Swiss Federal Institute of Technology (ETH), Zürich, Switzerland.  
 8/87– Assistant Professor (8/87 – 12/93), Associate Professor (1/94 – 12/01), Full Professor (1/02 – ), Department of Computer Science, University of North Carolina, Chapel Hill, NC.  
 6/87–6/94 Instructor, IBM University-Level Course Curriculum. Condensed one-week courses taught in various locations around the country. Courses taught include Algorithms, Programming Languages & Environments, and Software Engineering Principles.  
 9/86–8/87 Research Associate to Tom Reps, Department of Computer Sciences, University of Wisconsin - Madison, Madison, WI. Investigation of issues in programming languages and systems.

- 6/84–7/84 Instructor, Johns Hopkins Center for Academically Talented Youth. An intensive introduction to the mathematical foundations of computer science for nationally selected students aged 12-15.
- 1/80–5/81 Teaching Fellow, Cornell University, Ithaca, NY. Instructor for two introductory programming courses based on *APL* and *PASCAL* respectively.

### Industry Experience

- 5/00 – 8/00 3rdTech, Inc. Consultant and software developer for DeltaSphere 3D Laser Scanner system.
- 4/95 – 7/96 Gerald Pechanek, IBM MWAVE group, RTP, NC (spun-out to create BOPS, Inc.). Consultant on parallel computing issues in DSP chip and system design.
- 6/81 – 8/83 Ken Wilson, Department of Physics, Cornell University, Ithaca, NY. Development of a machine code optimizer for the FPS array processors using stochastic methods.
- 4/78 – 8/81 STSC, Inc., Rockville, MD. Systems Programmer. Member of the four man development team responsible for the design and implementation of the *APL\*PLUS* interpreters, primarily the production time-sharing system programmed in IBM 370 assembler code.
- 9/75 – 1/81 Digital Effects, Inc., New York. Founding member. Development of an animation production system and rendering software, used to produce computer generated film sequences for the television and motion picture industry. Sample productions include portions of the original Disney film “TRON”.

### Research Areas

High-performance computing: algorithms, programming languages, compilers and architectures. Scientific computing with focus on bioinformatics and computational biology. High-level programming languages and problem solving environments.

### Honors

- INCITE award (2014, 2016), US Department of Energy (400 million core-hours on ORNL Titan XK7 – #1 US Leadership Computing Facility), 2014 – 2018.
- Research Fellow, Renaissance Computing Institute (RENCI), 2010.
- IBM Faculty award, 2009.
- Fellow of the Institute of Arts and Humanities, Academic Leadership Program, Fall 2006.
- IBM Faculty award, 2006.
- Outstanding Teaching Award, CSSA May 2001
- Research Development Award, UNC-CH 1995
- Junior Faculty Development Award, UNC-CH 1989

**Post-doctoral Supervision**

Jennifer Waugh, MD 2009 Immunology, University of Michigan, 2015 (co-supervision with Paul Armistead, MD, PhD)  
 Susan Paulsen, Ph.D. 1994 Quantitative Genetics, Duke University (2003 - 2007),  
 Martin Simons, Ph.D. 1996 Computer Science, Technische Universität Berlin (1998-1999).  
 Lars Nyland, Ph.D. 1991 Computer Science, Duke University (1991-1997)

**PhD Supervision**

Joshua D. Welch (current Ph.D. candidate), Methods for analysis of single cell sequencing data, (exp. 2017).  
 Christian F. Orellana, (current Ph.D. candidate) *Algorithms for analysis of single molecule long-read sequencing*, (exp. 2016).  
 Darshan Singh, (current Ph.D. candidate) *Annotation-free Detection of Splicing Differences between RNA-seq Samples*, (exp. 2016)  
 Stephen L. Olivier, Ph.D. May 2012, *Locality-Aware Scheduling for Task Parallel Programming Languages*, Research Scientist, Sandia National Laboratories, Albuquerque, NM.  
 Jun (Luke) Huan, Ph.D. Oct. 2006, *Discovering Patterns in Families of Protein Structures*, (Co-advisor with W. Wang), Professor, Department of EECS, Kansas University.  
 Wolf Pfannenstiel, Ph.D. Dec. 2000 (TU Berlin), *Piecewise Execution of Nested Data Parallel Programs*, (Co-advisor with S. Jaehnichen, TU Berlin), Member of the Technical Staff, Dangelmayer & Seemann, Bonn, DE.  
 James W. Riely, Ph.D. Aug. 1999, *Abstract Values and Cost Models for Concurrent Programs*, Professor, DePaul University.  
 Rickard E. Faith, Ph.D. Dec. 1997, *Debugging Programs After Structure-Changing Transformation*, Senior Member of the Technical Staff, Nutanix, Inc.  
 Daniel W. Palmer, Ph.D. Nov. 1996, *Compiling High-Level Data-Parallel Programs for Parallel Execution*, Professor, John Carroll University.  
 Edoardo S. Biagioni, Ph.D. May 1992 (Co-advisor with G. Magó), *Scan-Directed Load Balancing*, Systems Scientist, Carnegie Mellon University (FOX group on foundations of programming languages); Professor, Univ. of Hawaii.

**MS thesis Supervision**

Only MS thesis supervision is listed. This option is infrequently chosen in our department.  
 Duo Zhao, M. Sc. Mathematics, 2015, *A Pipelined Symmetric Gauss-Seidel Preconditioned Conjugate Gradient Solver for the HPCG Benchmark*, Google, Mountain View, CA  
 J. Christopher Ramming, M. Sc. 1989, LLPT: A Little-Language Prototyping Tool, Director, Intel Academic Research Collaborations Office.

**Ph.D. Committee memberships**

I have served on nearly 100 PhD committees in Computer Science at UNC, and as external examiner on several Computer Science PhD committees at other universities. In addition, I have served on 19 PhD committees in departments at UNC other than Computer Science, including: Biochemistry and Biophysics (3), Biology (2), Environmental Science and Engineering (5), Genetics (2), Immunology (1), Mathematics (4), Pharmacology (1), and Pharmacy (1).

**Professional Activities (2010-2015)**

## Journal Editorial Boards

Journal of Scientific Programming (2004 - )

Co-editor, special issue of Scientific Programming on High Performance Computing on Cell B.E. Processors

Journal reviewer (TOPLAS, Supercomputing, Parallel and Distributed Computing, Genome Biology, Bioinformatics, Nature Methods, Nucleic Acids Research, BMC Bioinformatics, European Bioinformatics Journal)

## Program Committee Memberships and conference reviews

Supercomputing, IPDPS, RECOMB/ISCB Regulatory and Systems Genomics, ACM BCB

## Proposal review

NSF, NIH, National research agencies in Switzerland and Austria.

## Invited talks

Distinguished Lecturer, MD Anderson Cancer Center, Houston, TX, July 2012

Sequencing Symposium, UNC, May 2012

**University Activities (2010-2015)**

Administrative Board of the Graduate School

Mentor, Chancellor's Science Scholars Program

ITS Research Computing Advisory Board

Carolina Center for Genomic Sciences, Advisory Board on Sequencing Informatics

Review Committee member, Statistics and OR Dept., 10-year Review

Search Committee for Dean of SILS

Task Force for new degree program in Health Informatics

Provost's Committee on Research Computing at UNC

Distinguished Dissertation Award Panel.

RENCI Advisory Board for Research Computing

IAH Fellow in Academic Leadership Program

University Faculty Council (1992 – 1995).

**Departmental Activities**

I have served as department chair for 5 years and as director of the graduate studies committee for 20 years. I produced substantial portions of all 10-year departmental reviews conducted during my time at UNC (three to date) and was chair of the reviews in 1991 and 2009.

Committee memberships (2009-2016)

Graduate Studies Committee (Chair)

Graduate Curriculum and Planning Committee

Undergraduate Studies Committee

Teaching Review Committee

Advisory Committee for BASS allocations (Chair)

F. P. Brooks Computer Science Building Committee

## Research Support

Role	Agency	Title	Total Award	Dates
PI	NIH	F31 FELLOW: J WELCH -Computational Modeling of Heterogeneous Gene Expression in Single Cells (NHGRI F31 HG008912), PI: Prins	\$66,518	6/1/16 – 5/31/18
Co-I	DOE	INCITE award: Advancing Models for Multiphase Flow and Transport in Porous Medium Systems, PI:McClure	115M CPU hrs annually Cray XK7 “Titan”	1/1/17 – 12/31/18
Co-PI	NIH	Leukemia Specific Splice Isoforms as Neo-Antigens for T-Cell Immunotherapy (NCI R01 CA201225), PI: P. Armistead	\$2,402,020	2/1/16 – 12/31/20
PI	NIH	Hybrid Sequencing to Define the Full-Length Transcriptome of Double Stranded DNA Viruses (NIAID R21 AI123811), PIs: Moorman, Prins	\$375,891	2/1/16 – 12/31/17
Co-PI	NSF	XPS: FULL: DSD: Parallel Motion Planning for Cloud-connected Robots (CCF-1533844), PI: R. Alterovitz	\$670,536	9/1/15 – 8/31/18
Co-PI	NC TraCS	Role of Viral Factors in Triple-Negative Breast Cancer Pathogenesis (TraCS 550KR71420)	\$50,000	5/1/14 – 4/30/15
Co-I	DOE	INCITE award: Advancing Models for Multiphase Flow and Transport in Porous Medium Systems, PI:McClure	60M CPU hrs annually Cray XK7 “Titan”	1/1/14 – 12/31/16
Co-I	UCRF	IgH Repertoire sequencing to predict early response to HER-2/neu Vaccination in Breast Cancer (2012 UCRF IA), PI: Serody	\$184,374	1/1/13 – 12/31/14
MPI	NIH	Unlocking transcript diversity via differential analyses of splice graphs (NHGRI R01 HG006272), MPI: Prins, Liu	\$1,340,000	5/28/12 – 3/31/16
SI	DOE	XPRESS: eXascale Programming Environment and System Software (DE- FC02-I2ER26102),PI: Porterfield	\$950,000	9/1/12 – 8/31/16
Co-PI	NSF	Collaborative Research: CDI-Type II - Revolutionary Advances in Modeling Transport Phenomena in Porous Medium Systems (CDI-0941235), PI: Miller	\$1,100,000	12/1/09 – 11/30/15
Co-PI	NSF	ABI: Exon Splice Pattern Characterization of the Whole mRNA Transcriptome (DBI- 0850237), PI: J. Liu	\$1,027,384	8/1/09 – 7/31/13

Role	Agency	Title	Total Award	Dates
Co-PI	NSF	FRG - Advanced Algorithms and Software for Problems in Computational Bio-Fluid Dynamics (DMS-0854961), PI: Minion	\$870,478	7/1/09 – 6/30/13
Co-PI	NSF	III-Core: Discovering and Exploring Patterns in Subspaces (IIS-0812464), PI: Wang	\$444,711	9/1/08 – 8/31/11
SI	NSF	CRI-IAD: Integrated Projector-Camera Modules for the Capture and Creation of Wide-Area Immersive Experiences, PI: Fuchs	\$310,000	4/1/08 – 3/31/11
Co-PI	NIH	Protein Structure/Function Specific Packing Motifs (1R01GM068665-01A3) PI: Tropsha	\$1,089,388	9/1/06-8/31/10/
PI	IBM	Shared University Research (Equipment Grant)	\$83,000	2006-07
SI	NIEHS	Superfund Basic Research Program - Mathematical and Statistical Analysis and Modeling Core (P42ES05948)	\$5,000,000	10/1/06 – 9/30/10
Co-PI	NSF	Identifying Spatial Motifs for Classification of Protein Structure and Function (CCF-EMT 0523875), PI: Wang	\$300,000	7/15/05 – 7/14/08
Co-PI	EPA	Carolina Environmental Bioinformatics Research Center (EPA R832720)	\$4,000,000	8/1/05 – 7/31/10
SI	ARO	Computer Generated Force Scalability using GPUs, PI: Manocha	\$2,400,000	1/15/05 – 1/14/08
Co-PI	NIH	(P20) Carolina Center for Experimental Genetic Analysis (P20-RR2075), PI: Reed	\$1,795,000	10/1/04 – 9/30/07
Co-PI	NSA	Parallel Unbalanced Tree Search	\$500,000	5/1/04 – 12/31/06
SI	UNC GA	UNC Training Program in Bioinformatics	\$450,000	4/19/02 – 8/31/05
Co-PI	Lucite Foundn	Parallel Programming Paradigms for Distributed Memory and DSM multiprocessors	\$345,000	4/1/02 – 8/30/03
Co-PI	DOE	Environmental Modeling System	\$969,000	2/1/02 – 1/31/05
Co-PI	NSF	A Distributed, High-Performance Computing Environment for the Applied Sciences	\$1,024,000	9/01/01 – 8/31/04
Co-PI	Lucite Foundn	Parallel Programming Paradigms for Distributed Memory and DSM multiprocessors	\$325,000	11/01/00–3/31/02
Co-PI	NSF	ITR-ACS: Self-Scheduling N-body simulation algorithms	\$450,649	10/1/00 – 9/30/03

Role	Agency	Title	Total Award	Dates
Co-PI	EPA	An Object-oriented Integrated Framework for Multi-discipline Ecosystem Modeling	\$863,049	8/20/00 – 9/30/02
SI	NIH	Parallel Computing in Structural Biology	\$2,500,000	10/1/98 – 9/30/03
PI	NSF	Cooperative Research (with TU Berlin): Nested Parallelism in Fortran 90 Programs	\$10,060	3/1/98 – 8/31/01
SI	NSF	SGI Reality Monster (equipment grant)	\$1,900,000	9/1/98 – 8/31/01
Co-PI	Cray NCSC	Nested Parallelism in Fortran 90	\$8,000	1/1/98 – 12/31/98
Co-PI	Intel Corp.	Computing Power for Collaborative Science (equipment grant)	\$2,858,747	8/1/97 – 7/31/00
PI	CSCS, CH	Generating efficient parallel implementations for irregular problems on the NEC SX-4	CHF 7,500	9/1/96 – 8/31/98
	ETH Zürich	Salary support for visiting sabbatical position	CHF 80,000	7/15/96 – 7/15/97
PI	ARPA	Software Infrastructure for the Rapid Development of Interactive and Collaborative Educational Simulations	\$193,447	8/28/95 – 8/27/97
PI	UNC (URC)	University Faculty Research Grant	\$1,500	4/26/96 – 4/25/98
PI	Cray NCSC	High Performance Irregular Algorithms via High-Level Notations and Novel Compilation Techniques	\$8,000	1/1/96 – 12/31/97
PI	UNC	Research Development Award	\$700	2/1/95 – 12/31/95
PI	NSWC	Advanced Geoserver Prototyping Experiment	\$12,499	8/1/94 – 9/30/94
PI	Rome Labs	A Refinement-Based Methodology for the Architecture-Independent Design and Development of Parallel Software	\$990,000	5/1/94 – 8/15/96
SI	NIH	Parallel Computing Resource for Structural Biology	\$3,349,000	7/1/93 – 6/30/98

Role	Agency	Title	Total Award	Dates
PI	EPA	Application of Highly Parallel Computers to Air Quality Simulation	\$78,370	10/1/92 – 6/30/94
PI	DARPA	A Prototyping System for Parallel and Distributed Applications	\$2,150,000	9/1/92 – 2/29/96
SI	NCI	HPCC Technology for Realtime Medical Decision Support	\$460,432	9/1/92 – 8/31/95
PI	STSC, inc.	Use of <i>APL*PLUS</i> in a Programming Paradigms course (software)	\$36,000	8/17/92 – 12/31/94
Co-PI	ARO	An Investigation of Fluid Flow and Contaminant Transport Processes in Heterogeneous Multiphase Systems	\$2,356,310	7/1/92 – 6/30/97
PI	DARPA	Design and Demonstration of a Common Prototyping System	\$720,000	5/1/91 – 6/30/92
PI	MasPar Corp.	Research Agreement	\$18,225	2/1/91 – 1/31/92
PI	DARPA	Proposal for a Common Prototyping Language Based on Unity, Refine and SETL	\$500,000	5/1/90 – 4/30/91
PI	ONR	Compiling Data-Parallel Programming Languages for SIMD Execution	\$87,000	3/15/89 – 6/30/90
PI	UNC-CH Found'n	Investigation of Issues in Parallel Programming	\$3,000	1/1/89 – 12/31/89



## Courses Taught

### Parallel Computing

High Performance Computing (UNC COMP 633 graduate core course)  
Parallel Computing: Theory and Practice (ETH D-INFK undergraduate course)  
Parallel and Distributed Computing (with P. Widmayer, ETH D-INFK, graduate course)  
Parallel Algorithms (UNC COMP 790 graduate course)  
Parallel Programming Languages (UNC COMP 790 graduate course)

### Compiler Construction

Compilers (UNC COMP 520 undergraduate course)  
Advanced Compiler Design (UNC COMP 720 graduate course)

### Algorithms and Theory of Computation

Predictive Models for High-Dimensional Data Analysis (UNC COMP 790-201, 1 credit module course for NIH BD2K training program).  
Bioalgorithms (UNC COMP 555 grad/undergrad course)  
Parallel Algorithms (UNC COMP 790 graduate course)  
Models of Languages and Computation (UNC COMP 455 undergraduate course)  
Algorithm Design and Analysis (IBM internal course)

### Programming Languages

Advanced Topics in Programming Languages (UNC COMP 724 graduate course)  
Programming Paradigms (UNC COMP 790 graduate course)  
Comparative Programming Languages (UNC COMP 590)  
Programming Languages and Programming Environments (IBM internal course)

### Software Engineering

Formal Methods in Software Engineering (CMU SEI/UNC graduate course)  
Software Engineering (IBM internal course)

### Introduction to Programming

Introduction to Functional Programming (UNC COMP 121 ugrad CS major course)  
Introduction to Programming (UNC COMP 110 undergraduate introductory course)

## Publications

I maintain a curated list of my publications using Google Scholar (search for my name), which can be accessed in reverse chronological order or by number of citations as computed by google. Within bioinformatics and computational biology the most selective publication venues are high impact journals, while in computer science the most selective publication venues are top ranked international conference proceedings.

### I. Refereed Journal Articles, Book Chapters, and Edited Volumes

1. C. Zhang, X. Lu, Z. Zhu, Y. Hu, D. Singh, C. Jones, J. Liu, J.F. Prins, Y. Liu, "REC: fast sparse regression-based multicategory classification", *Statistics and Its Interface*, **10**(2), 31 Oct 2016.
2. JD Welch, LA Williams, M DiSalvo, AT Brandt, R Marayati, CE Sims, NL Allbritton, JF Prins, JJ Yeh, CD Jones, "Selective single cell isolation for genomics using microrraft arrays", *Nucleic Acids Research* **44**(17), doi:10.1093/nar/gkw700, PMID 27530426, 16 Aug 2016.
3. T Hudson, S Harrison, Dukka KC, JF Prins, PM Muganda, "Abstract 1120: Differential expression of human cytomegalovirus microRNA in triple-negative breast cancer tumors", *Cancer Research*, doi:10.1158/1538-7445.AM2016-1120, 15 July 2016.
4. JD Welch, A Hartemink, JF Prins, "SLICER: Inferring Branched, Nonlinear Cellular Trajectories from Single Cell RNA-seq", *Genome Biology special issue on Single-Cell Omics*, **17**:106, PMID: 27215581, PMC48777993, 23 May 2016.
5. JD Welch, Y. Hu, JF Prins, "SingleSplice: Robust detection of alternative splicing in a population of single cells", *Nucleic Acids Research* **44**(8):e73, doi: 10.1093/nar/gkv1525, PMID 26740580, PMCID: PMC4856971, 5 Jan 2016.
6. JD Welch, MK Slevin, DC Tatomer, RJ Duronio, JF Prins, WF Marzluff, "EnD-Seq and AppEnD: sequencing 3' ends to identify nontemplated tails and degradation intermediates", *RNA* **21**:1375-1389, PMID: 26015596, 26 May 2015.
7. JD Welch, J Baran-Gale, C Perou, P Sethupathy, JF Prins, "Pseudogenes transcribed in breast invasive carcinoma show subtype-specific expression and ceRNA potential", *BMC Genomics* **16**:113, doi: 10.1186/s12864-015-1227-8, PMID: 25765044, 22 Feb 2015.
8. Cancer Genome Atlas Network, "Comprehensive genomic characterization of head and neck squamous cell carcinomas", *Nature* **517**:576-582, doi:10.1038/nature14129, PMID: 25631445, PMC4647579, 29 Jan 2015.
9. M. Parfenov et al., "Characterization of HPV and host genome interactions in primary head and neck cancers", *PNAS* **111**:15544 - 15549, PMID: 25313082, 28 Oct 2014.
10. Cancer Genome Atlas Network, "Integrated Genomic Characterization of Papillary Thyroid Carcinoma", *Cell* **159** (3), 676-90, PMID: 25417114, PMC4243044, 23 Oct 2014.
11. Cancer Genome Atlas Network, "Comprehensive molecular profiling of lung adenocarcinoma", *Nature* **511**:543-550, doi:10.1038/nature13385, PMID: 25079552, PMC4231481, 31 July 2014.
12. J.E. McClure, J.F. Prins, C.T. Miller, "A novel heterogeneous algorithm to simulate multiphase flow in porous media on multicore CPU-GPU systems", *Computer Physics Communications* **185**:1865-1874, <http://dx.doi.org/10.1016/j.cpc.2014.03.012>, 2014.

13. M.K. Slevin, S. Meaux, J.D. Welch, R. Bigler, P.L. Miliani de Marval, W. Su, R.E. Rhoads, J.F. Prins, W.F. Marzluff, "Deep Sequencing Shows Multiple Oligouridylations Are Required for 3' to 5' Degradation of Histone mRNAs on Polyribosomes", *Molecular Cell* **53**:1020-1030, doi:10.1016/j.molcel.2014.02.027. PMID:24656133, 2014.
14. S. Olivier, B. De Supinski, M. Schulz, J. Prins, "Characterizing and Mitigating Work Time Inflation in Task Parallel Programs", *Scientific Programming* **21**(3-4):123-136, doi: 10.3233/SPR-130369, 2013.
15. P.G. Engström, T. Steijger, B. Sipos, G.R. Grant, A. Kahles, T. Alioto, J. Behr, P. Bertone, R. Bohnert, D. Campagna, C.A. Davis, A. Dobin, T.R. Gingeras, J. Harrow, G. Jean, P. Kosarev, S. Li, J. Liu, C.E. Mason, V. Molodtsov, Z. Ning, H. Ponsting, J.F. Prins, P. Ribeca, I. Seledtsov, V. Solovyev, G. Valle, N. Vitulo, K. Wang, T.D. Wu, G. Zeller, G. Rättsch, N. Goldman, T.J. Hubbard, J. Harrow, R. Guigó, P. Bertone, "Systematic evaluation of spliced aligners for RNA-seq data", *Nature Methods* **10**(12):1185-1191, doi:10.1038/nmeth.2722, PMID: 24185836, PMCID: PMC4018468, Dec. 2013.
16. J. Simon, K. Hacker, D. Singh, R. Brannon, J. Parker, M. Weiser, T. Ho, P.-F. Kuan, E. Jonasch, T. Furey, J.F. Prins, J. Lieb, K. Rathmell, I. Davis, "Variation in chromatin accessibility in human kidney cancer links H3K36 methyltransferase loss with widespread RNA processing defects", *Genome Research*, doi:10.1101/gr.158253.113, PMID: 24158655, PMCID: PMC3912414, Oct. 2013.
17. C. R. Cabanski, M. D. Wilkerson, M. Soloway, J. S. Parker, J. Liu, J. F. Prins, J. S. Marron, C. M. Perou, D. N. Hayes, BlackOPs: increasing confidence in variant detection through mappability filtering, *Nucleic Acids Research*, doi: 10.1093/nar/gkt692, PMID: 23935067, PMCID: PMC3799449, Aug 2013.
18. Y. Huang, Y. Hu, C.D. Jones, J.N. Macleod, D.Y. Chiang, Y. Liu, J.F. Prins, J. Liu, "A Robust Method for Transcript Quantification with RNA-seq Data", *Journal of Computational Biology* **20**(3):167-187. doi:10.1089/cmb.2012.0230, PMID: 23461570, PMCID: PMC3590898, March 2013.
19. Y. Hu, Y. Huang, Y. Du, C. F. Orellana, D. Singh, A. R. Johnson, A. Monroy, P.-F. Kuan, S. M. Hammond, L. Makowski, S. H. Randell, D. Y. Chiang, D. Neil Hayes, C.D. Jones, Y. Liu, J. F. Prins, J. Liu, "DiffSplice: the genome-wide detection of differential splicing events with RNA-seq", *Nucleic Acids Research* **41**(2):e39 doi:10.1093/nar/gks1026, PMID: 23155066, PMCID: PMC3553996, January 2013.
20. Cancer Genome Atlas Network, "Comprehensive genomic characterization of squamous cell lung cancers", *Nature* **489**(7417):519–525, DOI:10.1038/nature11404, PMID: 22960745, PMCID: PMC3466113, 27 September 2012.
21. Cancer Genome Atlas Network, "Comprehensive molecular characterization of human colon and rectal cancer", *Nature* **487**(7407):330–337, DOI:10.1038/nature11252, PMID: 22810696, PMCID: PMC3401966, 18 July 2012.
22. Y. Huang, Y. Hu, C. Jones, J. MacLeod, D. Chiang, Y. Liu, J. Prins, J. Liu, "A Robust Method for Transcript Quantification with RNA-seq Data", *Research in Computational Molecular Biology (RECOMB)*, LNCS **7262**:127-147, 2012.
23. M. D. Wilkerson, W. Sun, K. Wang, C. R. Cabanski, K. A. Hoadley, J. Liu, J. Prins, D. N. Hayes, "Detecting patient mutomes by integrating DNA and RNA sequencing", *Cancer Research* **72**(8 Suppl), 15 April 2012.

24. S. Olivier, A. Porterfield, K. Wheeler, M. Spiegel, J. Prins, "OpenMP Task Scheduling Strategies for Multicore NUMA Systems", *International Journal of High Performance Computing Applications*, **26**(2):110-124, 2012.
25. D. Singh, C. F. Orellana, Y. Hu, C. D. Jones, Y. Liu, D. Y. Chiang, J. Liu, J. F. Prins, "FDM: A Graph-based Statistical Method to Detect Differential Transcription using RNA-seq Data", *Bioinformatics* **27**(19), DOI:10.1093/bioinformatics/btr458, PMID: 21824971, PMCID: PMC3179659, Oxford Journals, 2011 (pp 2633-2640).
26. Y. Hu, K. Wang, X. He, D. Y. Chiang, J. F. Prins, J. Liu, "A probabilistic framework for aligning paired-end RNA-seq data", *Bioinformatics* **26**; DOI: 10.1093/bioinformatics/btq336, PMID: 20576625, PMCID: PMC2916723, Oxford Journals, 2010 (pp 1950-1957).
27. K. Wang, D. Singh, Z. Zeng, S. Coleman, Y. Huang, G. L. Savich, X. He, P. Mieczkowski, S. Grimm, C. Perou, J. MacLeod, D. Chiang, J. F. Prins, J. Liu, "MapSplice: "Accurate mapping of RNA-seq reads for splice junction discovery", *Nucleic Acids Research*, **38**(18):e178, DOI: 10.1093/nar/gkq622, PMID: 20802226, PMCID: PMC2952873, Oxford Journals, 27 Aug 2010 (pp 1 – 14)
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64. J.D. Welch, Y. Hu, J.F. Prins, "SingleSplice: Robust detection of alternative splicing in a population of single cells", (Highlight presentation) ISMB, Orlando, FL, July 2016.
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