Sean Davis

Curriculum Vita

9531 Rommel Drive
Columbia, MD 21046
✉ *sdavis2@mail.nih.gov*
Google Scholar–i10-index: 75; h-index: 44; 15,647 citations

Education and Professional Experience

2009–Present **Staff Scientist**, *Center for Cancer Research, National Cancer Institute.*

2007–2008 **Research Fellow**, *National Cancer Institute.*

2005–2007 **Research Fellow**, *National Human Genome Research Institute.*

2002–2005 **Clinical Fellow**, *Combined Johns Hopkins and National Cancer Institute Pediatric Hematology/Oncology Fellowship.*

1999–2002 **Pediatric Resident**, *Children's Hospital and Regional Medical Center, University of Washington.*

1993–1999 **MD**, *University of Pittsburgh School of Medicine.*

1995–1997 **PhD**, *University of Pittsburgh Graduate School of Public Health.*
Department of Human Genetics

1989-1993 **B.S.E.**, *Princeton University*, *With Honors.*
Mechanical and Aerospace Engineering

Professional Involvement and Service

November, 2017 *NIH Representative to US Department of Agriculture*, Blueprint for USDA Efforts in Agricultural Animal Genomics

August, 2017 *NIH Intramural Representative*, NIH Data Commons Review Committee

February, 2017 *Organizer*, NIH/NIST Medical Devices Cybersecurity Workshop, Bethesda, MD

January, 2017-present Cancer Moonshot Blue Ribbon Panel Implementation Working Group, National Cancer Data Ecosystem

January, 2017 *Organizer*, Globus Data Platform Hackathon and Workshop, NIH, Bethesda, MD

January, 2017 *NCI Representative*, NHLBI TopMed Data Commons Planning Workshop

December, 2016-present *Founding Member*, NIH Data Science Special Interest Group

July, 2016-July, 2017 *NCI Representative*, NIH Data Commons Reference Dataset Working Group

July, 2016 *Co-organizer*, Frontiers of Predictive Oncology and Computing Symposium, Washington, DC

June, 2016 *Organizer*, Bioconductor 2016 Annual Meeting and Developer Conference. Stanford, CA.

April-November, 2016 Presidential Subcommittee on AI and Machine Learning, Cancer Moonshot Initiative

December, 2015 *NCI representative and panel member*, FDA Informatics and Precision Medicine Workshop

January, 2016 *Co-organizer*, NCBI Genomics and Bioinformatics Hackathon

November, 2015-present	NCI Cancer Cloud Pilot, Leading Intramural Research Program evaluation and implementation
July, 2015	*Organizer*, Bioconductor 2015 Annual Meeting and Developer Conference. Seattle, WA.
June, 2015	*Course organizer*, Statistical Analysis of Genomic Data, Cold Spring Harbor Laboratory
May, 2015-present	CCR Representative to CBIIT Strategic Planning Committee
2015	NCI Intramural Research Program Representative, NCI Cancer Cloud Initiative
2015	NCI Desktop Linux Working Group
2015-Present	Member of Genomic Alliance for Genomic Health (GA4GH), Tools and Workflows Working Group
2014-Present	Software Carpentry Instructor
2014-Present	NIH and NCI Genomic Data Sharing Policy Implementation working groups
July, 2014	*Organizer*, Bioconductor 2014 Annual Meeting and Developer Conference. Boston, MA.
June, 2014	*Course organizer*, Statistical Analysis of Genomic Data, Cold Spring Harbor Laboratory
May 12-13, 2014	*Intramural NIH representative*, BD2K Software Development Conference
January, 2014	*Organizer and Instructor*, Bioinformatics Summer Course, Riberão Preto Medical School, University of São Paulo, Brazil
2014	NCI Center for Cancer Genomics Genomic Data Commons Review Committee
July, 2013	*Organizer*, Bioconductor 2013 Annual Meeting and Developer Conference. Fred Hutchinson Cancer Research Center, Seattle, WA
June, 2013	*Course organizer*, Statistical Analysis of Genomic Data, Cold Spring Harbor Laboratory
February, 2013	*NIH Representative*, Big Data Conference, Agricultural Research Service, USDA, Beltsville, MD
2008-Present	*Bioconductor Core Development Team*, share responsibility (with 5 others) for the ongoing leadership of the Bioconductor Project
2012-Present	*Founding Member*, NIH High Performance and Scientific Computing Working Group
2012-2016	High Throughput Molecular Data Working Group, National Cancer Institute
2010-Present	*Steering Committee*, NCI Center of Excellence in Integrative Cancer Biology and Genomics
2009-Present	Sequencing Facility Steering and Review Committee, Center for Cancer Research, NCI
July, 2012	*Organizer*, Bioconductor 2012 Annual Meeting and Developer Conference. Fred Hutchinson Cancer Research Center, Seattle, WA
2011	NCI PacBio User Committee
July, 2011	*Organizer*, Bioconductor 2011 Annual Meeting and Developer Conference. Fred Hutchinson Cancer Research Center, Seattle, WA
2010-2012	Scientific Liaison, Center for Cancer Research Bioinformatics Core
2009-2010	*Chair*, Center for Cancer Research Bioinformatics Planning and Implementation Committee

September, 2010	*NIH Representative*, NIFA, USDA, Genomics and Bioinformatics Workshop, Washington, DC
2009	*Team Leader*, Advanced Biomedical Computing Center Review Committee
April, 2008	*Organizer*, European Bioconductor Developer Conference, Lausanne, Switzerland

Invited Presentations, Teaching, and Short Courses

Note: Limited to last 8 years.

January, 2018	*A Data Ecosystem for Biomedical Big Data*, Grand Rounds, Wake Forest School of Medicine, Winston-Salem, NC
July, 2017	*What can I do with my data?*, National Institute of Nursing Research, BigData Bootcamp, Bethesda, MD
July, 2017	*Course Organizer*, Statistical Analysis of Genomic Data, Cold Spring Harbor Laboratory, NY
June, 2017	*Cloud-scale genomics with the Cancer Genomics Cloud Pilots* and *Machine Learning in Biomedicine*, Purdue University, West Lafayette, IN
January, 2017	*A cloud-based data ecosystem for cancer research*, Dana Farber Cancer Institute, Boston, MA
January, 2017	*Open APIs with R and Bioconductor*, Harvard/Boston R/Bioconductor Meetup, Boston, MA
October, 2016	*Big data science careers in Government*, University of California, Riverside, CA
October, 2016	*Democratizing access to Big Cancer Data*, Midatlantic Bioinformatics Conference, University of Pennsylvania, Philadelphia, PA
July, 2016	*Bioconductor: Where Biology and Software Meet*, National Institute of Nursing Research, Bethesda, MD
July, 2016	*The Central Role of Data in Biomedical Research*, Purdue University, West Lafayette, IN
June, 2016	*Course Organizer*, Statistical Analysis of Genomic Data, Cold Spring Harbor Laboratory, NY
April, 2016	Software Carpentry, National Institute on Aging, Baltimore, MD
March, 2016	Using the NCI Cancer Genomics Cloud, a Hands-on Tutorial, NIH
February, 2016	Introduction to RNA-Seq Data Analysis, NCI
January, 2016	Introduction to Bioconductor: Code and Practice, DataCommunityDC, Washington DC
October, 2015	*Course organizer and faculty*: Harvard School of Engineering and Applied Science: CS290 Extreme Computing
September, 2015	BioIT: A Symbiotic Relationship Between Biological Research and IT Infrastructure, Converged IT Summit, San Francisco, CA
June, 2015	*Course Organizer*, Statistical Analysis of Genomic Data, Cold Spring Harbor Laboratory, NY
May, 2015	Beyond the Promise of Precision Medicine, Health 2.0 Meetup, Bethesda, MD
April, 2015	Relational Databases and R: a Powerful Combination for Science, NCI, DCEG
February, 2015	Introduction to RNA-Seq Data Analysis, NCI
January, 2015	Introduction to R and Bioconductor, NCI

December, 2014	Introduction to R for Data Manipulation and Visualization, NIH
June, 2014	*Course Organizer*,Statistical Analysis of Genomic Data, Cold Spring Harbor Laboratory, NY
February, 2014	One-day course on RNA-seq data analysis and visualization, CIT, NIH
February, 2014	Reproducible research using the Snakemake workflow toolkit on Biowulf, CIT, NIH
January, 2014	*Course Organizer*, Bioinformatics Summer Course, Riberão Preto Medical School, University of São Paulo, Brazil
July 19, 2013	Accessing Public Genomics Data Using R and Bioconductor, Bioconductor Conference, Fred Hutchinson Cancer Research Center, Seattle, WA
June, 2013	*Course Organizer*, Statistical Analysis of Genomic Data, Cold Spring Harbor Laboratory, NY
February 6, 2013	Planning for High Performance and Scientific Computing at the NIH, Agricultural Research Service, USDA, Beltsville, MD
November 6, 2012	Introduction to Next Generation Sequencing Technologies, Bioinformatics Training and Education Program, CCR, NCI
July 24, 2012	Accessing Public Genomics Data Using R and Bioconductor, Bioconductor Conference, Fred Hutchinson Cancer Research Center, Seattle, WA
June, 2012	*Course Organizer*, Statistical Analysis of Genomic Data, Cold Spring Harbor Laboratory, NY. Topics taught: public data access and data integration lab
2005-2012, except 2008	AACR Molecular Biology in Clinical Oncology (one-week course), Aspen & Snowmass, CO
March 28, 2012	Featured Speaker, Bioinformatics for Medical Genetics Symposium, American College of Medical Genetics, Charlotte, NC
February 27-28, 2012	Advanced R and Bioconductor Workshop on High-Throughput Genetic Analysis, Fred Hutchinson Cancer Research Center, Seattle, WA
January 13, 2012	Introduction to Next-Generation Sequencing: Mapping and Counting, Center of Excellence in Integrative Cancer Biology and Genomics Seminar Series, NCI
November 18, 2011	High-resolution Views of the Cancer Genome Using Next-Generation Sequencing Approaches, Lombardi Cancer Center, Georgetown University
July, 2011	*Course Organizer*, Statistical Analysis of Genomic Data, Cold Spring Harbor Laboratory. Topics taught: exome sequencing, methylation arrays, comparative genomic hybridization, public data access, and data integration lab
March, 2011	Introduction to Next-Generation Sequence Data Analysis, Center for Information Technology
January 28, 2011	Complete Genomics Data Tutorial, Center for Cancer Research, NCI
October 22, 2010	BioConductor: Tools for the Comprehension of Genomic Data, Translational Genomics Conference, Center of Excellence in Integrative Cancer Biology and Genomics annual meeting
October 22, 2010	Bioinformatics at the Center for Cancer Research, An Update, Center of Excellence in Integrative Cancer Biology and Genomics annual meeting
September 9, 2010	Potential Applications of Genomics in Agriculturally Important Species, NIFA, U.S. Department of Agriculture
Spring, 2010	Microarray Data Analysis Using R and Bioconductor, Department of Biostatistics, Bioinformatics, and Biomathematics, Georgetown University

February 23, 2010	Genomic Technologies for Viewing the Cancer Genome, Georgetown University
July, 2010	*Course Organizer*, Statistical Analysis of Genomic Data, Cold Spring Harbor Laboratory
November 18, 2009	Structural Variant Discovery in Short Read Sequencing using R and Bioconductor, Fred Hutchinson Cancer Research Center, Seattle, WA
November 18-20, 2009	Instructor, High throughput sequence analysis tools and approaches with Bioconductor, Fred Hutchinson Cancer Research Center, Seattle, WA
March 17, 2009	High-resolution Views of the Cancer Genome: Tools for examining the genome in a high-throughput way, Case Western Reserve University, Cleveland, OH
February 12, 2009	Genomics for the Pediatrician: An Overview of Genomics Technologies, Pediatric Grand Rounds, Oklahoma University Health Sciences Center, Oklahoma City, OK

Awards and Honors

2016 & 2017	National Cancer Institute Technology Transfer Award
2016	United States Department of Health and Human Services Director's Award
2015	National Institutes of Health Director's Award
2012	Staff Scientist/Staff Clinician Travel Award, Center for Cancer Research, NCI
2002-2007	NIH General Loan Repayment Program
2002	Family-Centered Care Award, University of Washington
1995	W.M. Keck Fellowship for Advanced Scientific Computing
1989	National Merit Scholar
1989	National Honor Society Scholarship
1988	Pennsylvania Governor's School for Science
1988	Young Humanitarian of the Year, Pennsylvania Association for Gifted Education

Editorial Responsibilities

2015-Present	Editor, F1000Research Bioconductor Channel
2010-Present	Associate Editor, BMC Bioinformatics
2009	Book reviewer, CRC Press, 2009

Peer Reviewer

- Bioinformatics
- BMC Bioinformatics
- Breast Cancer Research
- Cancer Research
- Clinical Cancer Research
- Database
- Endocrine-Related Cancer
- EURASIP Journal on Bioinformatics and Systems Biology
- Genetic Epidemiology
- Genomics
- Genome Research
- Gigascience
- Molecular Carcinogenesis
- Molecular Cancer Research
- Nature Methods
- Nucleic Acids Research
- Pigment Cell & Melanoma Research
- PLoS Computational Biology
- PLoS One
- Transactions on Computational Biology and Bioinformatics

References

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J. Hum. Genet. 98.5 (May 2016). [PubMed Central:PMC4863475] [DOI:10.1016/j.ajhg.2016.03.001] [PubMed:27087319], pp. 830–842.

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