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Assistant Professor of Human Genetics
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Education and Training

Education

09/1994-04/1998 BS, Biology with a Concentration in Molecular Biology, East Carolina University, Greenville, North Carolina
01/1998-12/2000 MS, Molecular Biology and Biotechnology, East Carolina University, Greenville, NC
08/2004-04/2009 PhD, Bioinformatics and Systems Biology, Boston University, Boston, MA

PostDoctoral Training

08/2009-08/2011 Postdoctoral Fellow, Computational Biology, National Institutes of Health (NIH), National Human Genome Research Institute (NHGRI), Bethesda, MD
09/2011-08/2014 Research Fellow, Pharmacology Research Associate (PRAT) Fellow in Computational Biology, National Institutes of Health (NIH), National Institute of General Medical Sciences (NIGMS), Bethesda, MD

Academic, Administrative, Clinical, Research and Military Appointments

Academic Appointments

09/2014-present Assistant Professor in Department of Computational Medicine and Bioinformatics, University of Michigan - Ann Arbor, Ann Arbor, Michigan
09/2014-present Assistant Professor Department of Human Genetics, University of Michigan - Ann Arbor, Ann Arbor, MI

Industry

05/1996-08/1997 Research Assistant, Glaxo Wellcome (Currently GSK), RTP, Durham, NC
05/1998-08/1998 Research Associate, Novartis Biotechnology, Inc, Durham, NC
01/2001-06/2002 Associate Scientist, Cogent Neuroscience Inc., Durham, NC
07/2002-08/2004 Genome Closure Data Analyst, The Broad Institute & MIT Center for Genome Research, Cambridge, MA
03/2009-08/2009 Bioinformatics Consultant, BD TriPath, RTP, Durham, NC

Research Interests

- The major goal of the lab is to generate mechanistic knowledge about how disease susceptibility is encoded in the non-coding portion of the genome, with a focus on type 2 diabetes. We accomplish this through an interdisciplinary combination of molecular/cellular and computational approaches. Specifically, we generate multiple high-throughput data sets on the genome, epigenome, and transcriptome across species and in disease-relevant tissues/cells and develop/use computational approaches to integrate and analyze this data.

Grants

Current Grants

Genetic modulators of opioid exposure in human neurologic development University of Michigan, Precision Health Investigator
Parker, Stephen CJ, Co-PI; Bielas, Stephanie, Co-PI
11/2018-10/2020. \$300,000

1 R01 DK117960: *Context-specific and combinatorial genetic regulatory grammars in diabetes* NIH-DHHS-US- 18-PAF01128

Parker, Stephen CJ, PI
09/2018-08/2023. \$2,518,393

2 U01 DK062370-15: *Identifying Genes for Type 2 Diabetes: FUSION* NIH-DHHS-US- 18-PAF02198

Co-I with Effort (Principal Investigator: Boehnke, Michael Lee; Scott, Laura Jean)
08/2018-07/2023. \$3,633,282

(Declined) 1 R35 GM128662: *Integrative approaches to dissect complex genetic regulatory grammars* NIH-DHHS-US- 18-PAF01127

Parker, Stephen CJ, PI
07/2018-06/2023. \$1,886,445

7-18-MUI-002: *RFX6 transcriptional regulation in type 2 diabetes* American Diabetes Association (Minority Undergraduate Internship Award)

Parker, Stephen CJ, PI
07/2018-06/2019. \$3,000

Patient-Specific Phenotyping of Genetic and Environmental Contributors to Cardiomyopathy University of Michigan, Research Stimulus Funding Opportunity Award

Parker, Stephen CJ, Co-PI; Liu, Allen, Co-PI; Helms, Adam, Co-PI
05/2018-04/2019. \$35,000

5 U01 HL137182-02: *Scalable and Translational Analysis Tools on the Cloud for Deep Integrative Omics Data* NIH-DHHS-US- 17-PAF00023

Co-I with Effort (Principal Investigator: Kang, Hyun Min)
04/2017-03/2020. \$1,628,682

5 U24 DK112342-06: *Michigan MoTrPAC Chemical Analysis Site (MiCAS)* NIH-DHHS-US- 16-PAF05168

Co-I with Effort (Principal Investigator: Burant, Charles; Li, Jun)
12/2016-11/2022. \$8,238,759

5 R00 DK099240-04: *Synthesizing genome, epigenome, and transcriptome datasets in type 2 diabetes* NIH-DHHS-US- 15-PAF00221

Parker, Stephen CJ, PI
05/2015-04/2019. \$726,371

1 U01 DK105561: *Functional genetic variants for type 2 diabetes* SubK-NIH-DHHS-US through a consortium with University of North Carolina a- 15-PAF00027

Parker, Stephen CJ, PI
04/2015-03/2020. \$384,813

1-14-INI-07: *Deconstructing type 2 diabetes using genome-wide high-density multi-tissue omics profiling* American Diabetes Association- 15-PAF00322

Parker, Stephen CJ, PI
01/2015-12/2020. \$1,542,664

Submitted Grants

Integrative genomic models to predict personalized and tissue-specific diabetes pathology American Diabetes Association- 18-PAF06236

Quang, Daniel Xin, PI
01/2019-12/2021. \$175,318

Targeting BCL6 regulatory elements in lymphoma Pardee, Elsa U., Foundation- 18-PAF07083

Co-I without Effort (Principal Investigator: Ryan, Russell Jh)
10/2018-09/2019. \$115,000

Developmental Mechanisms of the Chromodomain Gene Chd7 NIH-DHHS-US- 18-PAF05428
Co-I with Effort (Principal Investigator: Martin, Donna Marie)
09/2018-08/2023. \$3,792,356

Dissecting Cellular and Genetic Heterogeneity of Islet Stress Responses SubK-NIH-DHHS-US through a consortium with The Jackson Laboratory- 18-PAF02910
Parker, Stephen CJ, PI
07/2018-06/2023. \$237,973

Past Grants

NVIDIA GPU Grant NVIDIA Corporation
Stephen CJ Parker, PI
10/2017. \$1,200

Genetic Epidemiology of Rare and Regulatory Variants for Metabolic Traits SubK-NIH-DHHS-US through a consortium with University of North Carolina a- 17-PAF03737
Co-I with Effort (Principal Investigator: Boehnke, Michael Lee)
08/2017-07/2018. \$47,103

7-17-MUI-002: A potential novel genetic link between transcriptional regulation in rare neonatal diabetes and common adult-onset type 2 diabetes American Diabetes Association (Minority Undergraduate Internship Award)- 18-PAF00536
Parker, Stephen CJ, PI
07/2017-06/2018. \$3,000

5 R21 DA041202-02: Molecular basis of GABRA2 haplotypes associated with behavior and addiction NIH-DHHS-US- 16-PAF00083
Co-I with Effort (Principal Investigator: Burmeister, Margit)
07/2016-06/2018. \$422,830

Accelerating Medicines Partnership: Enhancement of the Type 2 Diabetes Knowledge Portal Foundation for the National In- 15-PAF00682
Co-I with Effort (Principal Investigator: Boehnke, Michael Lee; Abecasis, Goncalo)
01/2015-12/2016. \$2,567,844

Cell-type specific epigenome and transcriptome signatures of alpha and beta cells in rat islets. NIH/NHGRI/NISC Pilot Project Sequencing Award
Stephen CJ Parker, PI
01/2014-12/2014. \$10,000

Allelic and cross-species signatures of functional chromatin architecture in diabetes relevant cells. NIH/NHGRI/NISC Pilot Project Sequencing Award
Stephen CJ Parker, PI
01/2014-12/2014. \$10,000

Honors and Awards

National

2007	Genome Research Best Poster Award (Biology of Genomes Meeting)
2008-2009	National Academies, Ford Foundation Dissertation Fellowship
2008-2017	Associate Faculty Member, Faculty of 1000 Biology
2010	Genome Technology Young Investigators of the Year Award
2013	Selected Participant to Invitation-Only Cold Spring Harbor Banbury Conference on "Enhancer Biology in Health and Disease"
2014	Highlighted on American Diabetes Association TV (https://youtu.be/bqcHXd4pYJo)
2016-2017	American Association for University Women Doctoral Fellowship (Arushi Varshney, PhD Student)

Regional

- 2017 Michigan Science and Engineering Fair, 2nd Place in Life Sciences (Collin Wang, High School Visiting Scholar)
- 2017 Most likely transformative scientific impact at the Annual Michigan Institute for Data Science (MIDAS) Symposium. (Ricardo Albanus, PhD Student)
- 2017 Science & Engineering Fair of Metropolitan Detroit, 1st Place in Computational Biology and Bioinformatics (Collin Wang, High School Visiting Scholar)

Institutional

- 1999 East Carolina University James S. McDaniel Scholarship for Outstanding Graduate Student
- 2000 East Carolina University Mary C. Helms Scholarship for Outstanding Graduate Student
- 2000 East Carolina University Research Day Best Poster Presentation Award
- 2004-2005 Boston University Presidential Fellowship
- 2009 Boston University Bioinformatics Innovative Teaching Award
- 2011-2014 NIH/NIGMS Pharmacology Research Associate (PRAT) Fellowship (\$285,000)
- 2013 Fellows Award for Research Excellence (FARE), National Institutes of Health
- 2013 Trainee of the Year Award, NIH/NHGRI
- 2014 Distinguished Postbac Mentor Award, NIH
- 2016 Department of Human Genetics retreat best poster award (Arushi Varshney, PhD Student)
- 2017-2018 Barbour International Doctoral Scholarship (Arushi Varshney, PhD Student)
- 2017 Department of Computational Medicine & Bioinformatics retreat best poster award 2nd place (Ricardo Albanus, PhD Student)
- 2018-2019 Rackham Predoctoral Fellowship (Arushi Varshney, PhD Student)

Memberships in Professional Societies

- 2012-present Member, American Diabetes Association
- 2014-present Member, American Society of Human Genetics
- 2014-present Member, International Society for Computational Biology

Editorial Positions, Boards, and Peer-Review Service

Study Sections

International

- 2015-2016 Diabetes UK Grant Review Panel (Ad Hoc)
- 2018 Agence Nationale de la Recherche (France). Scientific Research Grant Review Panel (Ad Hoc)
- 2018 Medical Research Council (MRC), Research Grants Board (UK) (Ad Hoc)

National

- 2016 External Grant Reviewer for GrantSeeker Program at University of Texas Health Science Center at San Antonio (UTHSCSA) (Ad Hoc)
- 2017 National Institutes of Health (NIH), National Human Genome Research Institute (NHGRI), Human Heredity and Health in Africa (H3Africa) Research Projects (Ad Hoc)
- 2018-2020 American Diabetes Association Scientific Research Grant Review Committee
- 2018 National Aeronautics and Space Administration (NASA) Human Exploration Research Opportunities (HERO) Omics Study Section (Ad Hoc)

Institutional

- 2016 University of Michigan Medical School and Peking University Health Sciences Center Joint Institute grant review (Ad Hoc)

2017 University of Michigan Center for RNA Biomedicine Pilot Grants (Ad Hoc)

Editorial Boards

2017-present Board of Editors, eLife

Journal Reviewer

2012 Genome Research (Ad Hoc)
2013 Nucleic Acids Research (Ad Hoc)
2014 BMC Bioinformatics (Ad Hoc)
2014 BMC Genomics (Ad Hoc)
2014 Genome Biology (Ad Hoc)
2014 PLOS ONE (Ad Hoc)
2015 American Journal of Human Genetics (Ad Hoc)
2015 Bioinformatics (Ad Hoc)
2015 Diabetes (Ad Hoc)
2015 Gene (Ad Hoc)
2015 Nature Communications (Ad Hoc)
2015 Nature Genetics (Ad Hoc)
2016 PeerJ (Ad Hoc)
2016 Trends in Genetics (Ad Hoc)
2017 Nature (Ad Hoc)

Teaching

Graduate Student

05/2015-present Arushi Varshney, PhD, University of Michigan
05/2015-present Ricardo Albanus, PhD, University of Michigan
01/2016-present Peter Orchard, PhD, University of Michigan
05/2016-07/2016 Adrienne Niederriter, MD/PhD (rotation), University of Michigan
01/2017-04/2017 Alexandra Weber, PhD (rotation), University of Michigan
05/2017-08/2017 Kevin Hu, PhD (rotation), University of Michigan
08/2017-09/2017 Renaid Kim, MD/PhD (rotation), University of Michigan
01/2018-03/2018 Callie Swanepoel, PhD (rotation), University of Michigan
01/2018-05/2018 Rachel Lopez, PhD (rotation), University of Michigan
01/2018-present Vivek Rai, PhD, University of Michigan
02/2018-04/2018 Renee Conway, PhD (rotation), University of Michigan

Postdoctoral Fellow

07/2015-08/2018 Yasuhiro Kyono, PhD, University of Michigan
08/2017-present Daniel Quang, PhD, University of Michigan
09/2018-present Venkat Ramamoorthi Elangovan, PhD, University of Michigan

Undergraduate Student

10/2016-05/2017 Maximilian Wehner, BS, University of Michigan
10/2016-09/2018 Sophia Manduca, BS, University of Michigan
09/2017-present Iyana Whalen, BS, University of Michigan
09/2017-present Jessica Ebeling, BS, University of Michigan
06/2018-08/2018 Stephanie Laureano, BS, University of Puerto Rico at Humacao, University of Michigan UM-SMART Program
09/2018-present Nicole Kim, BS, University of Michigan

Visiting Scholars

06/2015-09/2015 Hadley VanRenterghem, High School, Ann Arbor Huron High School
06/2017-12/2018 Collin Wang, High School, Detroit Country Day Upper School

Teaching Activity

Institutional

01/2015-present PhD Candidate Preliminary Exams: Wei Zhou, Shriya Sethuraman, Yaya Zhai, Li Guan, Marcus Sherman, Jun Chen, Christopher Castro, Zena Lapp, Mitch Fernandez, Heming Yao
01/2015-present PhD Thesis Committees: Chee Lee, Patricia Garay, Christina Vallianatos, Hongjiu Zhang, Wei Zhou, Alexandre Daly, Owen Funk, Tongyu Liu, Yeji Lee, Brooke Wolford, Jonathan Herrera, Andrew Liu
02/2015-05/2016 Lecturer, BIOINF 525: Foundations in Bioinformatics and Systems Biology, University of Michigan
02/2015-present Lecturer, BIONF 545: High-throughput Molecular Genomic and Epigenomic Data Analysis, University of Michigan
08/2015-present Course Mentor, HG821/822: Student Seminar, University of Michigan
08/2015-present Lecturer, BIONF 523: Bioinformatics Basic Biology Lab, University of Michigan
08/2016-present Lecturer, Foundations in Molecular Medicine, University of Michigan

Dissertation Committees

2015 Hongjiu Zhang, Cancer sequencing analysis suite for scalable mapping of sequences and accurate inference of expression profiles and heterogeneity., University of Michigan, Computational Medicing & Bioinformatics, Committee Member
2016 Chee Lee, Functional interpretation of high-throughput sequencing data., University of Michigan, Computational Medicing & Bioinformatics, Committee Member
2016 Wei Zhou, Computational and statistical approaches for large-scale genome-wide association studies for cardiovascular diseases., University of Michigan, Computational Medicing & Bioinformatics, Committee Member

Committee and Administrative Services

Committee Services

International

2015-present National Institutes of Health (NIH) National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) Accelerating Medicines Partnership (AMP) Steering Committee (NASC), Member
2017 Harnessing Big Data for Precision Medicine: Infrastructures and Applications, Pacific Symposium on Biocomputing, Workshop Organizer

National

2011-2013 National Institutes of Health (NIH), National Human Genome Research Institute (NHGRI) Genome Trainee Advisory Committee, Member
2012 National Institutes of Health (NIH), National Human Genome Research Institute (NHGRI), Summer Intern Career Development Panel Discussion, Panel Member
2013 National Institutes of Health (NIH) Retreat Planning Committee, Panel Member
2016-2017 American Diabetes Association (ADA) Scientific Sessions Content Planning Subcommittee: Genetics and Gene Regulation, Member
2016-present American Diabetes Association (ADA) Abstract Review Committee, Member
2016 Great Lakes Bioinformatics and the Canadian Computational Biology Conference, Manuscript Review Committee, Manuscript Review Committee
2017 American Society for Human Genetics (ASHG) Abstract Review Committee, Bioinformatics and Computational Approaches Section, Abstract Review Committee

Institutional

2015-2016	Admissions Committee, University of Michigan Department of Computational Medicine and Bioinformatics, Co-Chair
2016-present	Bioinformatics Core Scientific Advisory Committee, University of Michigan, Member
2016-present	Department of Computational Medicine & Bioinformatics, University of Michigan, Website Committee, Co-chair
2016-present	Executive Committee, Center for RNA Biomedicine, University of Michigan, Member
2017-present	Admissions Committee, University of Michigan Department of Computational Medicine and Bioinformatics, Chair
2017-present	Operations Committee for the Medical Scientist Training Program (MSTP), University of Michigan, Member
2017-present	Philanthropy and Outreach Committee, Department of Human Genetics, Member
2018-present	Epigenomics Core Scientific Advisory Committee, University of Michigan, Member
2018	DNA Sequencing Core Director Search Committee, University of Michigan, Member
2018	Genetics and Genomics Campus Connection, Summer Bridge Scholars Program, Department of Human Genetics, University of Michigan, Member

Visiting Professorships and Extramural Invited Presentations

Extramural Invited Presentations

1. Oral Presentation, The ENCODE Consortium Chromatin and Replication Subgroup Meeting, October 2005, Seattle, WA
2. 8th International Workshop on Bioinformatics and Systems Biology, Boston University, June 2008, Zeuthen, Germany
3. Presentation, Helicos BioSciences Corporation, May 2009, Cambridge, MA
4. Oral Presentation, The ENCODE Consortium Meeting, March 2010, Bethesda, MD
5. Annual Retreat, The National Human Genome Research Institute, National Institutes of Health, November 2010, Cambridge, MD
6. Friday Floor Forums, National Human Genome Research Institute, National Institutes of Health, November 2010, Cambridge, MD
7. The 17th Conversation: Journal of Biomolecular Structure and Dynamics; Invited under young investigator program, University at Albany SUNY, June 2011, Albany, NY
8. Chromatin DECODE Meeting, The National Institutes of Health, November 2012, Bethesda, MD
9. The Biology of Genomes Meeting, Cold Spring Harbor Laboratory, May 2013, Cold Spring Harbor, NY
10. Banbury Meeting on Enhancer Biology in Health and Disease, Cold Spring Harbor Laboratory, October 2013, Cold Spring Harbor, NY
11. Earl Stadtman tenure track investigator search: Symposium on Computational Biology, The National Institutes of Health, December 2013, Bethesda, MD
12. Department of Biostatistics and Bioinformatics, Duke University, January 2014, Durham, NC
13. The Jackson Laboratory for Genomic Medicine, The Jackson Laboratory, January 2014, Farmington, CT
14. Program in Bioinformatics & Integrative Biology, University of Massachusetts Medical School, February 2014, Worcester, MA
15. Department of Genetics and Genome Sciences, Case Western Reserve University, February 2014, Cleveland, OH
16. Earl Stadtman Investigator talk, The National Institutes of Health, National Institute on Aging, February 2014, Baltimore, MD
17. Department of Medicine, Vanderbilt University School of Medicine, March 2014, Nashville, TN
18. The Jackson Laboratory, The Jackson Laboratory, March 2014, Bar Harbor, ME
19. The Biology of Genomes Meeting, Cold Spring Harbor Laboratory, May 2014, Cold Spring Harbor, NY
20. The American Diabetes Association 74th Scientific Sessions, American Diabetes Association, June 2014, San Francisco, CA

21. Graduate Student Society, University of Rochester, January 2015, Rochester, NY
22. American Diabetes Association 76th Scientific Sessions, American Diabetes Association, June 2016, New Orleans, LA
23. Genomics, Wayne State University, October 2016, Detroit, MI
24. Science at the Edge seminar series, Michigan State University, December 2016, Lansing, MI
25. Diabetes and Obesity Research Institute (DORI) annual symposium, University of Southern California, February 2017, Los Angeles, CA
26. American Diabetes Association 77th Scientific Sessions, American Diabetes Association, June 2017, San Diego, CA
27. Non-coding regulatory genomics in human health and disease., Progenity Inc., August 2017, Ann Arbor, MI
28. Accelerating Medicines Partnership for Type 2 Diabetes (AMP T2D) Meeting, NIDDK, March 2018, Bethesda, MD
29. Genome Sciences Seminar Series, University of Virginia, Center for Public Health Genomics, March 2018, Charlottesville, VA
30. Towards a functional understanding of the diabetic genome., NIDDK, April 2018, Bethesda, MD
31. Integrative computational genomics to understand T2D GWAS targets, Pfizer, December 2018, Boston, MA
32. Corporate Advisory Council (CAC) Meeting, American Diabetes Association, February 2019, New York, NY
33. Institute for Quantitative Health Science and Engineering (IQ) Seminar Series, Michigan State University, April 2019, East Lansing, MI

Seminars

1. Master of Science Thesis Seminar, East Carolina University, February 2001, Greenville, NC
2. Chemistry and Biology Seminar Series, Boston University, April 2008, Boston, MA
3. Doctoral Dissertation Defense, Boston University, April 2009, Boston, MA
4. FUSION Study Meeting, University of Michigan, November 2012, Ann Arbor, MI
5. Department of Computational Medicine & Bioinformatics, University of Michigan, January 2014, Ann Arbor, MI
6. Department of Human Genetics, University of Michigan, September 2014, Ann Arbor, MI
7. Bioinformatics Workshop, The University of Michigan, October 2014, Ann Arbor, MI
8. National Center for Integrative Biomedical Informatics (NCIBI) Tools & Technology talk, University of Michigan, April 2015, Ann Arbor, MI
9. National Center for RNA Biomedicine Research Symposium, University of Michigan, March 2016, Ann Arbor, MI
10. High Throughput Sequencing Special Interest Group, University of Michigan, June 2016, Ann Arbor, MI
11. Center for RNA Biomedicine seminar series, University of Michigan, December 2016, Ann Arbor, MI
12. Trans-Omics for Precision Medicine (TOPMed) Informatics Research Center (IRC) Analysis Workshop., University of Michigan, April 2017, Ann Arbor, MI
13. T32 Lecture Series: Multidisciplinary training program in basic diabetes research, University of Michigan, May 2017, Ann Arbor, MI
14. FUSION Study Meeting., University of Michigan, November 2017, Ann Arbor, MI
15. Single-cell ATAC-Seq: applications and technology options, University of Michigan Single-Cell Biology Winter Retreat, December 2018, Ann Arbor, MI

Bibliography

Peer-Reviewed Journals and Publications

1. International Human Genome Sequencing Consortium.: Finishing the euchromatic sequence of the human genome. *Nature* 431(7011): 931-45, 2004. PM15496913

2. Nusbaum C, Mikkelsen TS, Zody MC, ...*51 authors...*, **Parker SCJ**, ...*21 authors...*, Platzer M, Shimizu N, Lander ES: DNA sequence and analysis of human chromosome 8 *Nature* 439(7074): 331-335, 2006. PM16421571
3. Gustafson AM, Snitkin ES, **Parker SCJ**, DeLisi C, Kasif S: Towards the identification of essential genes using targeted genome sequencing and comparative analysis *BMC Genomics* 7: 265, 2006. PM17052348
4. Birney E, Stamatoyannopoulos JA, Dutta A, ...*41 authors...*, **Parker SCJ**, ...*270 authors...*, Yoshinaga Y, Zhu B, de Jong PJ: Identification and analysis of functional elements in 1% of the human genome by the ENCODE pilot project *Nature* 447(7146): 799-816, 2007. PM17571346
5. Greenbaum JA, **Parker SCJ**, Tullius TD: Detection of DNA structural motifs in functional genomic elements *Genome Res.* 17(6): 940-946, 2007. PM17568009
6. **Parker SCJ**, Margulies EH, Tullius TD: The relationship between fine scale DNA structure, GC content, and functional elements in 1% of the human genome. *Genome Inform* 20: 199-211, 2008. PM19425134
7. **Parker SCJ**, Hansen L, Abaan HO, Tullius TD, Margulies EH: Local DNA topography correlates with functional noncoding regions of the human genome *Science* 324(5925): 389-392, 2009. PM19286520
8. Ewens KG, Stewart DR, Ankener W, Urbanek M, McAllister JM, Chen C, Baig KM, **Parker SCJ**, Margulies EH, Legro RS, Dunaif A, Strauss 3rd JF, Spielman RS: Family-based analysis of candidate genes for polycystic ovary syndrome *J. Clin. Endocrinol. Metab.* 95(5): 2306-2315, 2010. PM20200332
9. Sommer WH, Lidström J, Sun H, Passer D, Eskay R, **Parker SCJ**, Witt SH, Zimmermann US, Nieratschker V, Rietschel M, Margulies EH, Palkovits M, Laucht M, Heilig M: Human NPY promoter variation rs16147:T>C as a moderator of prefrontal NPY gene expression and negative affect *Hum. Mutat.* 31(8): E1594-E1608, 2010. PM20648632
10. Stitzel ML, Sethupathy P, Pearson DS, Chines PS, Song L, Erdos MR, Welch R, **Parker SCJ**, Boyle AP, Scott LJ, , Margulies EH, Boehnke M, Furey TS, Crawford GE, Collins FS: Global epigenomic analysis of primary human pancreatic islets provides insights into type 2 diabetes susceptibility loci *Cell Metab.* 12(5): 443-455, 2010. PM21035756
11. ENCODE Project Consortium.: A user's guide to the encyclopedia of DNA elements (ENCODE). *PLoS Biol* 9(4): e1001046, 2011. PM21526222/PMC3079585
12. **Parker SCJ**, Tullius TD: DNA shape, genetic codes, and evolution *Curr. Opin. Struct. Biol.* 21(3): 342-347, 2011. PM21439813
13. Goldfeder RL*, **Parker SCJ***, Ajay SS, Ozel Abaan H, Margulies EH: A bioinformatics approach for determining sample identity from different lanes of high-throughput sequencing data *PLoS ONE* 6(8): e23683, 2011. PM21858207
14. Ajay SS, **Parker SCJ**, Abaan HO, Fajardo KV, Margulies EH: Accurate and comprehensive sequencing of personal genomes *Genome Res.* 21(9): 1498-1505, 2011. PM21771779
15. **Parker SCJ**, Harlap A, Tullius TD: A computational method to search for DNA structural motifs in functional genomic elements *Methods Mol. Biol.* 759: 367-379, 2011. PM21863498
16. Bishop EP*, Rohs R*, **Parker SCJ***, West SM, Liu P, Mann RS, Honig B, Tullius TD: A map of minor groove shape and electrostatic potential from hydroxyl radical cleavage patterns of DNA. *ACS Chem. Biol.* 6(12): 1314-1320, 2011. PM21967305
17. Shibata Y, Sheffield NC, Fedrigo O, Babbitt CC, Wortham M, Tewari AK, London D, Song L, Lee BK, Iyer VR, **Parker SCJ**, Margulies EH, Wray GA, Furey TS, Crawford GE: Extensive evolutionary changes in regulatory element activity during human origins are associated with altered gene expression and positive selection *PLoS Genet.* 8(6): e1002789, 2012. PM22761590
18. **Parker SCJ**, Gartner J, Cardenas-Navia I, Wei X, Ozel Abaan H, Ajay SS, Hansen NF, Song L, Bhanot UK, Killian JK, Gindin Y, Walker RL, Meltzer PS, Mullikin JC, Furey TS, Crawford GE, Rosenberg SA, Samuels Y, Margulies EH: Mutational Signatures of De-Differentiation in Functional Non-Coding Regions of Melanoma Genomes *PLoS Genet.* 8(8): e1002871, 2012. PM22912592
19. The ENCODE Project Consortium: An integrated encyclopedia of DNA elements in the human genome *Nature* 489(7414): 57-74, 2012. PM22955616
20. Gartner JJ*, **Parker SCJ***, Prickett TD, Dutton-Regester K, Stitzel ML, Lin JC, Davis S, Simhadri VL, Jha S, Katagiri N, Gotea V, Teer JK, Wei X, Morken MA, Bhanot UK, , Chen G, Elnitski LL, Davies MA, Gershenwald JE, Carter H, Karchin R, Robinson W, Robinson S, Rosenberg SA, Collins FS, Parmigiani G, Komar AA, Kimchi-Sarfaty C, Hayward NK, Margulies EH, Samuels Y: Whole-genome sequencing identifies a recurrent functional synonymous mutation in melanoma *Proc. Natl. Acad. Sci. U.S.A.* 110(33): 13481-13486, 2013. PM23901115

21. **Parker SCJ***, Stitzel ML*, Taylor DL, Orozco JM, Erdos MR, Akiyama JA, van Bueren KL, Chines PS, Narisu N, Black BL, Visel A, Pennacchio LA, Collins FS: Chromatin stretch enhancer states drive cell-specific gene regulation and harbor human disease risk variants Proc. Natl. Acad. Sci. U.S.A. 110(44): 17921-17926, 2013. PM24127591
22. Prickett TD, Zerlanko B, Gartner JJ, **Parker SCJ**, Dutton-Regester K, Lin JC, Teer JK, Wei X, Jiang J, NISC Comparative Sequencing Program, Chen G, Davies MA, Gershenwald JE, Robinson W, Robinson S, Hayward NK, Rosenberg SA, Margulies EH, Samuels Y: Somatic mutations in MAP3K5 attenuate its proapoptotic function in melanoma through increased binding to thioredoxin J. Invest. Dermatol. 134(2): 452-460, 2014. PM24008424
23. Ho JW, Jung YL, Liu T, ...7 authors..., **Parker SCJ**, ...64 authors..., Ahringer J, Karpen GH, Park PJ: Comparative analysis of metazoan chromatin organization Nature 512(7515): 449-452, 2014. PM25164756
24. Niederriter AR, Varshney A, **Parker SCJ**, Martin DM: Super Enhancers in Cancers, Complex Disease, and Developmental Disorders. Genes (Basel) 6(4): 1183-200, 2015. PM26569311/PMC4690034
25. Quang DX, Erdos MR, **Parker SCJ***, Collins FS: Motif signatures in stretch enhancers are enriched for disease-associated genetic variants. Epigenetics Chromatin 8: 23, 2015. PM26180553/PMC4502539
26. Chiu TP, Yang L, Zhou T, Main BJ, **Parker SCJ**, Nuzhdin SV, Tullius TD, Rohs R: GBshape: A genome browser database for DNA shape annotations Nucleic Acids Research 43(D1): D103-D109, 2015. PM25326329
27. Vahedi G, Kanno Y, Furumoto Y, Jiang K, **Parker SCJ**, Erdos MR, Davis SR, Roychoudhuri R, Restifo NP, Gadina M, Tang Z, Ruan Y, Collins FS, Sartorelli V, O'Shea JJ: Super-enhancers delineate disease-associated regulatory nodes in T cells Nature 520(7548): 558-562, 2015. PM25686607
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