

CURRICULUM VITAE ~ Chi Wang

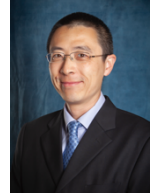
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Date Prepared: August 29, 2022

CURRICULUM VITAE

Chi Wang, PhD
Professor, with tenure, Regular Title Series
Department of Internal Medicine
Division of Cancer Biostatistics
University of Kentucky College of Medicine



I. GENERAL INFORMATION

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Personal Website <http://sweb.uky.edu/~cwa236/>

II. EDUCATION

Undergraduate [oldest at top, newest at bottom]

09/1997-06/2001 **Peking University**
Beijing, China
BS, Statistics

Professional/Graduate [oldest at top, newest at bottom]

09/2001-06/2003 **Peking University**
Beijing, China
MS, Statistics

09/2004-12/2009 **Johns Hopkins Bloomberg School of Public Health**
Baltimore, MD, USA
PhD, Biostatistics

III. PROFESSIONAL EXPERIENCES [oldest at top, newest at bottom]

Not applicable.

IV. ACADEMIC APPOINTMENTS [specify tenure/non-tenure track, academic/non-academic, full-time or part-time]

Faculty [oldest at top, newest at bottom]

	University of California, Riverside Riverside, CA
07/2009-06/2010	Assistant Professor, Department of Statistics, tenure-track, full-time
	University of Kentucky Lexington, KY
07/2010-06/2016	Assistant Professor, Division of Cancer Biostatistics, Department of Biostatistics, College of Public Health and Biostatistics and Bioinformatics Shared Resource Facility, Markey Cancer Center, Regular Title Series, tenure-track, full-time
07/2016-12/2019	Associate Professor, Division of Cancer Biostatistics, Department of Biostatistics, College of Public Health and Biostatistics and Bioinformatics Shared Resource Facility, Markey Cancer Center, Regular Title Series, with tenure, full-time
01/2020-06/2022	Associate Professor, Division of Cancer Biostatistics, Department of Internal Medicine, College of Medicine and Biostatistics and Bioinformatics Shared Resource Facility, Markey Cancer Center, Regular Title Series, with tenure, full-time
05/2021-06/2022	Associate Professor, Department of Statistics, College of Arts and Sciences, Joint (Secondary) Appointment
07/2017-	Associate Director for Bioinformatics, Biostatistics and Bioinformatics Shared Resource Facility, Markey Cancer Center, full-time
07/2022-	Professor, Division of Cancer Biostatistics, Department of Internal Medicine, College of Medicine and Biostatistics and Bioinformatics Shared Resource Facility, Markey Cancer Center, Regular Title Series, with tenure, full-time
07/2022-	Professor, Department of Statistics, College of Arts and Sciences, Joint (Secondary) Appointment

V. HOSPITAL or CLINICAL APPOINTMENTS [oldest at top, newest at bottom; specify full-time or part-time]

Not applicable.

VI. CONSULTING ACTIVITIES [oldest at top, newest at bottom in each section]

Not applicable.

VII. TEACHING ACTIVITIES [oldest at top, newest at bottom in each section; use for students, residents, fellows, continuing education programs]

University Faculty

Course Instructor

I was the instructor of the following courses. For most courses, I prepared course materials, gave a series of lectures throughout the semester, made and graded homework and exams.

Particularly, I have developed a new course “Sequencing Data Analysis” on introducing state-of-the-art statistical and bioinformatics methods for next-generation sequencing data analysis, and have taught the course twice.

University of California, Riverside

Riverside, CA

09/2009-12/2009

Probability and Statistics for Science and Engineering [STAT 155]

This is an introductory course for undergraduate students from science and engineering departments. It covers basic probability and statistics concepts and methods with an emphasis on techniques and applications that are useful in engineering, computer science, and the physical sciences.

01/2010-03/2010

Discrete Data Analysis [STAT 205]

This course is designed for PhD students from Department of Statistics to introduce statistical theory and methods for categorical data analysis.

03/2009-05/2010

General Statistical Models [STAT 171]

This course is designed for MS students from Department of Statistics to provide an applied introduction of statistical methods for categorical data analysis.

University of Kentucky

Lexington, KY

01/2012-05/2012

Biometrics II [BST 676]

This course, the second of a two-semester sequence in biometrics, is designed for students in the joint Epi-Bio PhD program. It develops numerous techniques for constructing and rigorously evaluating point estimators, hypothesis testing procedures, and interval estimators.

01/2013-05/2013

Biometrics II [BST 676]

01/2014-05/2014

Biostatistics I [CPH 580]

This course, the first of a two-semester sequence in biostatistics, is an introductory course for graduate students from various colleges. It covers basic statistics concepts and methods used in medicine, public health, and the biological sciences. It also demonstrates using SAS to perform basic statistical analysis.

01/2015-05/2015

Biostatistics I [CPH 580]

08/2016-12/2016

Doctoral Seminar [CPH 786]

This course is designed for PhD students from Department of Biostatistics to enhance their research ability. Students are required to read research

- articles, give presentations, participate in paper discussions, and attend colloquium sessions
- 01/2017-05/2017 Sequencing Data Analysis [CPH 738-001]
This is *a new course that I developed* for graduate students from various colleges. It introduces state-of-the-art statistical and computational methods for processing and analyzing genomic data generated by next generation sequencing, and provides hands-on genomic data analysis experience.
- 01/2018-05/2018 Doctoral Seminar [CPH 786]
- 01/2019-05/2019 Sequencing Data Analysis [CPH 738-002/STA715-005]

Guest Lectures

I was invited to give guest lectures (1 to 1.5 hours each) for the following courses from various departments in College of Medicine and College of Public Health.

- University of Kentucky**
Lexington, KY
- 04/2013 Biology and Therapy of Cancer [MI/MED/PHA 616, topic: Cancer Biostatistics for Basic and Translational Research]
- 09/2013 Drug Discovery, Development, and Translation [PHS 760, topic: Bioinformatics for Translational Discoveries and Targeted Clinical Studies]
- 10/2013 Practical Statistics [IBS 611, topic: Bioinformatics I & II]
- 11/2013 Introduction to Bioinformatics [CPH 738-007, topic: Next-Generation Sequencing]
- 04/2014 Introduction to Bioinformatics [CPH 738-007, topic: Next-Generation Sequencing]
- 12/2014 Practical Statistics [IBS 611, topic: Introduction to Bioinformatics]
- 09/2015 The 3rd annual Markey Cancer Center Clinical Trials Boot Camp [topic: Bioinformatics for NGS data @ Biostatistics and Bioinformatics Shared Resource Facility]
- 04/2017 Introduction to Bioinformatics [BMI 633, topic: Next-Generation Sequencing]
- 08/2017 2017 Markey Cancer Center Clinical Trials Boot Camp [topic: Genomics and Bioinformatics in Clinical Studies]
- 12/2017 Introduction to Bioinformatics [BMI 633, topic: Next-Generation Sequencing]
- 03/2019 Introduction to biomedical image informatics [BMI 734, topic: Cancer Somatic Mutation Analysis based on Next Generation Sequencing]
- 03/2019 Introduction to biomedical image informatics [BMI 734, topic: Cancer Somatic Mutation Analysis based on Next Generation Sequencing]
- 02/2020 Introduction to Bioinformatics [BMI 633, topic: Cancer Somatic Mutation Analysis based on Next Generation Sequencing]
- 10/2020 Instrumental Techniques In Forensic Chemistry [TOX 920, topic: Basic Probability and Statistics Review]

10/2020 Forensic and Analytical DNA [TOX 910, topic: Basic Probability and Statistics Review]
11/2020 Introduction to Bioinformatics [BMI 633, topic: Cancer Genomics --- with A Focus on Somatic Mutation Analysis]
04/2021 Introduction to Bioinformatics [BMI 633, topic: Cancer Genomics --- with A Focus on Somatic Mutation Analysis]
10/2021 Forensic and Analytical DNA [TOX 910, topic: Basic Probability and Statistics Review]
12/2021 Introduction to Bioinformatics [BMI 633, topic: Cancer Genomics --- with A Focus on Somatic Mutation Analysis]

Professional Course/Program Faculty

**American College of Clinical Pharmacy (ACCP) Foundation
Mentored Research Investigator Training (MeRIT) program
Lexington, KY**
06/2019 Basic Statistics Review

VIII. ADVISING ACTIVITIES [oldest at top, newest at bottom in each section]

Advisor/Co-Advisor

I have served as advisor/co-advisor for the following eight PhD students from University of Kentucky. Six of those students have already graduated. During the entire period of time that a student worked on the dissertation, I spent *one to three hours per week* with the student to have a one-to-one meeting, provide guidance on research topic selection, literature review, statistical methods derivation, simulation studies and real data analyses, encourage participation and presentation in conferences, and revise manuscripts and dissertation.

Supervision time period	Role	Student's name	Department	Current position
06/2013-07/2016	Co-Advisor	Hong Wang*	Statistics	Sanofi
06/2015-07/2020	Co-Advisor	Li Xu	Statistics	Wells Fargo
06/2016-07/2019	Advisor	Zhengyan Huang	Biostatistics	Everest Clinical Research
06/2016-07/2020	Co-Advisor	Tingting Zhai	Statistics	Novartis
06/2016-07/2020	Co-Advisor	Xu Zhang	Statistics	Gilead Sciences
06/2018-05/2022	Co-Advisor	Tiantian Zeng	Statistics	Merck
06/2016-present	Co-Advisor	Menghan Wang	Statistics	
06/2020-present	Advisor	Kun Liu	Statistics	

* *Winner of the ENAR 2016 Distinguished Student Paper Award*

Dissertation Committee Member

I have served as a member on dissertation committees for students from a variety of departments at the University of Kentucky, where I joined the committees at either early or late stage of students' dissertation development depending on their needs. My duties include attending committee meetings and final defense and providing statistical advice on students' dissertation works.

Time period	Student's name	Department	Degree
01/2011-11/2011	Zhenyu Huang	Biostatistics	MS
03/2012-10/2013	Yin Hu	Computer Science	PhD
01/2014-06/2014	Jinpeng Liu	Computer Science	MS
11/2014-12/2014	Yan Huang	Computer Science	PhD
01/2015-11/2016	Hongyuan Wang	Statistics	PhD
06/2015-07/2015	Adam Parrish	Communication	PhD
09/2017-11/2018	Jin Xie	Statistics	PhD
09/2017-05/2019	Chenlu Ke	Statistics	PhD

09/2017-03/2018	Xinan Liu	Computer Science	PhD
02/2018-05/2018	Xiaoli Kong	Statistics	PhD
08/2018-02/2020	Yuntong Li	Statistics	PhD
10/2018-07/2020	Yue Cui	Statistics	PhD
11/2018-05/2020	Xue Ding	Statistics	PhD
01/2019-present	Xiaofei Zhang	Computer Science	PhD
03/2019-08/2019	Eugene Hinderer	Molecular & Cellular Biochemistry	PhD
05/2019-06/2019	Yi Zhang	Computer Science	PhD
06/2019-11/2020	Aisaku Nakamura	Statistics	PhD
08/2019-10/2020	Matthew Rutledge	Statistics	PhD
08/2019-present	Pei Wang	Statistics	PhD
11/2019-present	Jinpeng Liu	Computer Science	PhD
02/2020-09/2020	Ting Zeng	Statistics	PhD
03/2020-09/2021	Justin Wayne Gorski	CCTS	PhD
04/2020-present	Sheng Yuan	Statistics	PhD
10/2020-present	Nan Lin	Pharmacy	PharmD
04/2021-present	Leon Su	Statistics	PhD
10/2021-present	Percy Yeh	Statistics	PhD
08/2021-present	Brien Washington	Medical Physics	PhD

IX. ADMINISTRATIVE ACTIVITIES & UNIVERSITY SERVICE [oldest at top, newest at bottom in each section]

College

University of Kentucky
Lexington, KY

Administration & Clinical Operations

07/2015-06/2016 Member, College of Public Health Faculty Council

Education & Research

07/2011-06/2014 Member, College of Public Health MPH Admissions Committee

07/2011-06/2013 Member, College of Public Health Joint PHD Program Qualify Exam Committee

07/2017-06/2019 Member, College of Public Health Research Committee

Medical Center

Markey Cancer Center
Lexington, KY

Administration & Clinical Operations

07/2017-present Associate Director for Bioinformatics, Biostatistics and Bioinformatics Shared Resource Facility

Education & Research

07/2017-present	Member, Biospecimen Procurement and Translational Pathology Shared Resource Facility Scientific Advisory Committee
10/2017-05/2019	Member, Oncogenomics Shared Resource Facility Scientific Advisory Committee
06/2019-present	Chair, Oncogenomics Shared Resource Facility Scientific Advisory Committee
10/2020-05/2021	Member, Committee for External Genomics Vendor, Oncogenomics Shared Resource Facility

X. SPECIAL ASSIGNMENTS

Not applicable.

XI. HONORS & AWARDS [specify nature/meaning of each; academic, professional, honorary, not grants; oldest at top, newest at bottom]

10/2000	First Prize, the National College Mathematics Contest in Modeling, China
09/2000	Bao Jie Scholarship, Peking University, Beijing, China
09/2001	Second Prize, the 9th Challenge Cup Contest of Peking University, Beijing, China
09/2002	An Tai Scholarship, Peking University, Beijing, China
09/2004-06/2009	Graduate Scholarships, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD
02/2008	Distinguished Student Paper Award, International Biometric Society Eastern North American Region (ENAR)
06/2010	Member of the Delta Omega Alpha Chapter
06/2010	Member of the Phi Beta Kappa Society

XII. PROFESSIONAL ACTIVITIES, PUBLIC SERVICE & PROFESSIONAL DEVELOPMENT [oldest at top, newest at bottom in each section]

Memberships

07/2009-present International Biometric Society
12/2020-present International Chinese Statistical Association
11/2021-present International Society for Computational Biology

Review Panels

National Science Foundation
03/2013-04/2014 Reviewer, Methodology, Measurement, and Statistics (MMS) Program

Oncology Research Information Exchange Network (ORIEN)
12/2018-12/2019 Member (Biostatistician reviewer), ORIEN Scientific Review Committee
05/2021-05/2023 Member (Biostatistician reviewer), ORIEN Scientific Review Committee

National Cancer Institute
06/2017-06/2017 Reviewer, Special Emphasis Panel focus on Clinical & Translational R21 & Omnibus R03: ZCA1 TCRB-J (O1)
04/2018-04/2018 Reviewer, Special Emphasis Panel focus on Clinical and Translational Exploratory/Developmental Studies ZCA1 TCRB-J (M1) S
07/2019-07/2019 Reviewer, Special Emphasis Panel on Collaborative Research at the NIH Clinical Center ZCA1 TCRB-J (O3)
10/2021-10/2021 Reviewer, NCI SPORE (P50) Review II ZCA1RPRB-6 (J1)
03/2022-03/2022 Reviewer, NCI Pancreatic Cancer Detection Consortium (U01/U24) Review ZCA1 RPRB-8 (M2)

American Heart Association Institute for Precision Cardiovascular Medicine
10/2019-09/2021 Member, Data Science Study Section
07/2020-12/2020 AHA COVID-19 Data Challenge phases I and II

Internal grant reviews

University of Kentucky
12/2011 Kentucky Lung Cancer Research Program
05/2013 American Cancer Society Institutional Research Grant
12/2013 American Cancer Society Institutional Research Grant
01/2014 Kentucky Lung Cancer Research Program
08/2014 American Cancer Society Institutional Research Grant
12/2014 American Cancer Society Institutional Research Grant
11/2015 Markey Cancer Center Cancer Center Support Grant Pilot Program
12/2015 Kentucky Lung Cancer Research Program
08/2016 American Cancer Society Institutional Research Grant
06/2017 American Cancer Society Institutional Research Grant

06/2017	Center for Clinical and Translational Science Pilot and Innovation Research Program
11/2017	Peter and Carmen Lucia Buck Clinical Translational Research Award
03/2018	American Cancer Society Institutional Research Grant
06/2018	American Cancer Society Institutional Research Grant
12/2018	American Cancer Society Institutional Research Grant
01/2019	Markey Cancer Center Cancer ORIEN Award
05/2019	American Cancer Society Institutional Research Grant
10/2019	Markey Cancer Center Cancer Center Support Grant Pilot Program
12/2019	Center for Clinical and Translational Science Pilot and Innovation Research Program
03/2020	American Cancer Society Institutional Research Grant
05/2020	Markey Cancer Center Cancer Center Support Grant Pilot Program
09/2020	American Cancer Society Institutional Research Grant
03/2021	American Cancer Society Institutional Research Grant
03/2022	American Cancer Society Institutional Research Grant

Editorial Boards

06/2014-present	Biometrics & Biostatistics International Journal, MedCrave network
07/2014-present	Journal of Biometrics & Biostatistics, Hilaris

Journal Peer-Reviewing

03/2008-06/2018	Statistica Sinica
03/2010-04/2019	BMC Bioinformatics
06/2010-06/2022	PLoS ONE
06/2011-01/2012	The International Journal of Biostatistics
06/2011-06/2011	Journal of Classification
06/2011-08/2017	Statistical Applications in Genetics and Molecular Biology
10/2011-04/2022	Statistics in Medicine
01/2012-05/2015	Journal of Causal Inference
02/2012-04/2012	Journal of Statistical Planning and Inference
04/2012-04/2012	BMC Genomics
01/2013-01/2013	Journal of Biopharmaceutical Statistics
02/2013-02/2013	International Journal of Computational Biology and Drug Design
02/2013-04/2013	Computational Statistics and Data Analysis
03/2013-03/2013	Computational Biology and Chemistry
12/2014-06/2016	Biometrics & Biostatistics International Journal
04/2014-09/2017	Scientific Reports
01/2015-06/2018	Annals of Applied Statistics
06/2016-03/2020	Bayesian Analysis
07/2016-03/2017	Canadian Journal of Statistics
07/2016-10/2018	Briefings in Functional Genomics
07/2017-10/2017	Bioinformatics
07/2017-10/2018	Journal of the American Statistical Association

11/2018-09/2019	Cancer Medicine
04/2020-04/2020	Nucleic Acids Research
09/2020-11/2021	American Journal of Epidemiology
12/2021-12/2021	Journal of the Royal Statistical Society: Series C
02/2022-02/2022	Scandinavian Journal of Statistics

XIII. SPEAKING ENGAGEMENTS [Invited lectureships, panel sessions; oldest at top, newest at bottom in each section]

Local

University of California, Los Angeles

Los Angeles, CA

03/2010 Department of Statistics: “Exponential Tilt Models for Time-to-Event Outcomes”

University of Louisville

Louisville, KY

02/2016 Department of Bioinformatics and Biostatistics: “Estimation of the Average Causal Effect while Accounting for Uncertainty in Confounder and Effect Modifier Selection”

11/2018 Department of Bioinformatics and Biostatistics: “Differential Abundance Analysis for Proteomic and Metabolomic Data”

Peking University

Beijing, China

05/2017 Department of Statistics: “Causal effect estimation while accounting for uncertainty in confounder and effect modifier selection”

Jilin University

Changchun, Jilin, China

06/2017 Translational Medical Science Institute, The First Bethune Hospital of Jilin University: “Bioinformatics Methods for Cancer ‘Omics Studies”

06/2017 Department of Statistics: “NanoStringDiff: A Novel Statistical Method for Differential Expression Analysis Based on NanoString nCounter Data”

University of Kentucky

Lexington, KY

02/2018 Markey Research Seminar: “Probabilistic and Statistical Modeling for Cancer Omics Data”

03/2021 Department of Statistics: “Statistical Methods for Complex Cancer Data”

University of Pittsburgh

Pittsburgh, PA

03/2022 Hillman Cancer Center “Statistical Methods for Cancer Omics Data”

State/Regional

21st Century Cures

Knoxville, TN

03/2018 Southeast Conference, Using Big Data to Overcome Health Disparities: “Mutational Characterization of Squamous Cell Lung Cancers from Appalachian Kentucky: Moving Closer to Personalized Treatment”

University of Kentucky

Lexington, KY

- 03/2013 Inaugural Breast Cancer Symposium: “Bioinformatics Support from MCC’s Biostatistics Shared Resource Facility (BSRF)”
- 03/2015 10th Annual CCTS Spring Conference: “Statistical and Bioinformatics Methods for Genomic Data Analysis”
- 03/2016 4th Annual Breast Cancer Symposium: “Bioinformatics Data Processing and Analysis”
- 03/2017 5th Annual Breast Cancer Symposium: “Bioinformatics methods for breast cancer genomic data”
- 10/2018 2nd Commonwealth Computational Summit: “Bioinformatics Methods for Next Generation Sequencing-Based Cancer Studies”

Southern Regional Council on Statistics

Carrollton, KY

- 06/2019 Southern Regional Council on Statistics 2019 Conference: “Statistical Methods for Cancer Somatic Mutation Analysis”

National/International

The Ohio State University

Columbus, OH

- 11/2019 Mathematical Biosciences Institute Workshop on Evolutionary Dynamics in Cancer: “A probabilistic method to estimate the temporal order of pathway mutations during carcinogenesis by leveraging intra-tumor phylogenies and functional annotations”

International Chinese Statistical Association

virtual conference

- 12/2020 ICSA 2020 Applied Statistics Symposium: “A Statistical Framework for Genome-Scale Mutual Exclusivity Analysis of Cancer Mutations”

Oncology Research Information Exchange Network (ORIEN)

- 03/2022 Tampa, FL
3rd Annual ORIEN Scientific Retreat: “Radiogenomics Consortium and Biomarker Development for Non-Small Cell Lung Cancer (NSCLC) Patients”

XIV. RESEARCH & INTELLECTUAL CONTRIBUTIONS

A. PUBLICATIONS [oldest at top, newest at bottom in each section; number each within each section; published or accepted for publication/in press; NOT in preparation]

Statistical and Bioinformatics Methodological Papers

(*: corresponding or co-corresponding author, †: student/GRA)

1. Yang J, **Wang C** and Yang Y. The grouping of DNA sequences model. *Journal of Mathematics in Practice and Theory* 31(1):31-38, 2001. (in Chinese)
2. Geng Z, **Wang C** and Zhao Q. Decomposing a moral graph to search for v-structures. *Journal of Multivariate Analysis* 96(2): 282-294, 2005.
3. Dominici F, **Wang C**, Crainiceanu C and Parmigiani P. Model selection and health effect estimation in environmental epidemiology. *Epidemiology* 19:558-560, 2008.
4. Irizarry RA, **Wang C**, Zhou Y and Speed TP. Gene set enrichment analysis made simple. *Statistical Methods in Medical Research* 18:565–575, 2009.
5. Chen S, **Wang C**, Caffo BS, Eberly LE and Schwartz BS. Adaptive control of the false discovery rate in voxel-based morphometry. *Human Brain Mapping* 30:2304-2311, 2009.
6. **Wang C**^{*}, Tan Z and Louis TA. exponential tilt models in the presence of censoring. *Journal of Statistical Planning and Inference* 141:1102-17, 2011.
7. **Wang C**^{*}, Parmigiani G and Dominici F. Bayesian effect estimation accounting for adjustment uncertainty (with discussion). *Biometrics*, 68(3): 661-86, 2012.
8. Wu H[†], **Wang C**[‡] and Wu Z. A new shrinkage estimator for dispersion improves differential expression detection in RNA-seq. *Biostatistics*, 14(2): 232-43, 2013. [‡]Authors with equal contribution.
9. **Wang C**^{*}, Tan Z and Louis TA. An exponential tilt mixture model for time-to-event data to evaluate treatment effect heterogeneity in randomized clinical trials. *Biometrics & Biostatistics International Journal*, 1(2):00006, 2014.
10. **Wang C**^{*}, Tan Z and Louis TA. An exponential tilt model for quantitative trait loci mapping with time-to-event data. *Journal of Bioinformatics Research Studies*, 1(2):2, 2014.
11. Tian S, Chang HH, **Wang C**, Jiang J, Wang X and Niu J. Multi-TGDR, a multi-class regularization method, identifies the metabolic profiles of hepatocellular carcinoma and cirrhosis infected with hepatitis B or hepatitis C virus, *BMC Bioinformatics*, 15:97, 2014.
12. Tian S, **Wang C** and An MW. Test on existence of histology subtype-specific prognostic signatures among early stage lung adenocarcinoma and squamous cell carcinoma patients using a Cox-model based filter. *Biology Direct*, 10:15, 2015.
13. **Wang C**^{*}, Dominici F, Parmigiani G and Zigler CM. Accounting for uncertainty in confounder and effect modifier selection when estimating average causal effects in generalized linear Models. *Biometrics*, 71(3):654-65, 2015.
14. Chen L, **Wang C**, Qin ZS and Wu H. A novel statistical method for quantitative comparison of multiple ChIP-seq datasets. *Bioinformatics*, 31(12):1889-96, 2015.
15. Wu H, **Wang C** and Wu Z. PROPER: Comprehensive power evaluation for differential expression using RNA-seq. *Bioinformatics*, 31(2):233-41, 2015.
16. Wang H[†], Horbinski C, Wu H, Liu Y, Sheng S, Liu J, Weiss H, Stromberg A, **Wang C**^{*}. NanoStringDiff: A novel statistical method for differential expression analysis based on NanoString nCounter data. *Nucleic Acids Research*, 44(20): e151, 2016.

17. **Wang C**, Liu J and Fardo DW. Causal effect estimation in sequencing studies: A Bayesian method to account for confounder adjustment uncertainty. *BMC Proceedings*, 10(7): 411-415, 2016.
18. Tian S, Chang HH, **Wang C**. Weighted SAMGSR: combining significance analysis of microarray-gene set reduction algorithm with pathway topology-based weights to select relevant genes, *Biology Direct*, 11(1):50, 2016.
19. Tian S, **Wang C**, Chang HH, Sun J. Identification of prognostic genes and gene sets for early-stage nonsmall cell lung cancer using bi-level selection methods. *Scientific Reports*, 7:46164, 2017.
20. Huang Z[†], Chen L and **Wang C***. Classifying lung adenocarcinoma and squamous cell carcinoma using RNA-Seq Data. *Cancer Studies and Molecular Medicine*. 2017 Sep; Volume 3: Issue 2.
21. Tian S, **Wang C**, Chang HH. A longitudinal feature selection method identifies relevant genes to distinguish complicated injury and uncomplicated injury over time. *BMC Medical Informatics and Decision Making*,18(5):115, 2018.
22. Tian S, **Wang C**, Chang HH. To select relevant features for longitudinal gene expression data by extending a pathway analysis method. *F1000Research*. 2018;7.
23. Li Y[†], Fan TWM, Lane AN, Kang WK, Arnold SM, Stromberg AJ, **Wang C***, Chen Li. SDA: A semi-parametric differential abundance analysis method for metabolomics and proteomics data. *BMC Bioinformatics*, 2019 Dec 1;20(1):501.
24. Wang M[†], Yu T, Liu J, Chen L, Stromberg AJ, Villano JL, Arnold SM, Liu C, **Wang C***. A probabilistic method for leveraging functional annotations to enhance estimation of the temporal order of pathway mutations during carcinogenesis. *BMC bioinformatics*. 2019 Dec;20(1):1-2.
25. Tian S, **Wang C***. Feature Selection for Longitudinal Data by Using Sign Averages to Summarize Gene Expression Values over Time. *Biomed Res Int*. 2019;2019:1724898. doi: 10.1155/2019/1724898. eCollection 2019.
26. Tian S, **Wang C**, Wang B. Incorporating Pathway Information into Feature Selection towards Better Performed Gene Signatures. *Biomed Res Int*. 2019;2019:2497509. doi: 10.1155/2019/2497509. eCollection 2019. Review.
27. Huang Z[†], Lane AN, Fan TW, Higashi RM, Weiss HL, Yin X, **Wang C***. Differential Abundance Analysis with Bayes Shrinkage Estimation of Variance (DASEV) for Zero-Inflated Proteomic and Metabolomic Data. *Scientific Reports*. 2020 Jan 21;10(1):1-2.
28. Tian S, **Wang C**, Suarez-Farinas M. GEE-TGDR: A longitudinal feature selection algorithm and its application to lncRNA expression profiles for psoriasis patients treated with immune therapies. *BioMed Research International*, 2021;2021:8862895.
29. Tian S, **Wang C***. An ensemble of the iCluster method to analyze longitudinal lncRNA expression data for psoriasis patients. *Human Genomics* 2021 Apr 20;15(1):23.
30. Liu S[†], Liu J, Xie Y, Zhai T, Hinderer EW, Stromberg AJ, Vanderford NL, Kolesar JM, Moseley HNB, Chen L, Liu C, **Wang C***. MEScan: a powerful statistical framework for genome-scale mutual exclusivity analysis of cancer mutations. *Bioinformatics*. 2021 Jun 9;37(9):1189-1197.
31. Huang Z, **Wang C**. A Review on Differential Abundance Analysis Methods for Mass Spectrometry-Based Metabolomic Data. *Metabolites*. 2022 Apr;12(4):305.

Collaborative Papers (*: *corresponding or co-corresponding author*)

32. Yang Z, Stratton C, Francis PJ, Kleinman ME, Tan PL, Gibbs D, Tong Z, Chen H, Constantine R, Yang X, Chen Y, Zeng J, Davey L, Ma X, Hau VS, **Wang C**, Harmon J, Buehler J, Pearson E, Patel S, Kaminoh Y, Watkins S, Luo L, Zabriskie NA, Bernstein PS, Cho W, Schwager A, Hinton DR, Klein ML, Hamon SC, Simmons E, Yu B, Campochiaro B, Sunness JS, Campochiaro P, Jorde L, Parmigiani G, Zack DJ, Katsanis N, Ambati J and Zhang K. Toll-like Receptor 3 and Geographic Atrophy in Age-Related Macular Degeneration. *The New England Journal of Medicine* 359:1456-1463, 2008.
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XIV. RESEARCH & INTELLECTUAL CONTRIBUTIONS - *continued*

B. ABSTRACT PRESENTATIONS [specify type: Podium, Poster, Exhibit, Electronic, Educational Exhibit, Scientific Exhibit; oldest at top, newest at bottom in each section]

Local/State/Regional Meetings

1. 03/2007. **Wang C**, Z Tan and T Louis. Exponential Tilt Models in the presence of Censoring. International Biometric Society Eastern North American Region (ENAR) Spring Meeting. Atlanta, Georgia.
2. 03/2008. **Wang C**, F Dominici and G Parmigiani. A Bayesian Approach to Effect Estimation Accounting for Adjustment Uncertainty. International Biometric Society Eastern North American Region (ENAR) Spring Meeting. Arlington, Virginia. **Distinguished Student Paper Award.**
3. 03/2015. **Wang C**, F Dominici, G Parmigiani and C Zigler. Accounting for Uncertainty in Confounder Selection when Estimating Average Causal Effects in Generalized Linear Models. International Biometric Society Eastern North American Region (ENAR) Spring Meeting. Miami, Florida.

National/International

1. 08/2008. **Wang C**, Z Tan and T Louis. Exponential Tilt Models in the presence of Censoring. American Statistical Association Joint Statistical Meetings. Denver, CO.
2. 10/2014. **Wang C**, F Dominici and G Parmigiani. Bayesian Estimation of Average Causal Effect with Adjustment for Confounding. 3rd International Conference & Exhibition on Biometrics & Biostatistics. Baltimore, MD.
3. 08/2016. **Wang C**, F Dominici, G Parmigiani and C Zigler. Accounting for Uncertainty in Confounder and Effect Modifier Selection When Estimating Average Causal Effects in Generalized Linear Models. American Statistical Association Joint Statistical Meetings. Chicago, IL.
4. 03/2017. Wang H, Horbinski C, Wu H, Liu Y, Sheng S, Liu J, Weiss H, Stromberg A, **Wang C**. A Novel Statistical Tool for Differential Expression Analysis of NanoString nCounter Data. Statistical Practice in Cancer Conference, Tampa, FL.
5. 08/2018. Liu S, Liu J, Xie Y, Zhai T, Hinderer EW, Stromberg AJ, Canderford NL, Kolesar JM, Moseley HNB, Chen L, Liu C, **Wang C**. A New Statistical Method for Genome-Scale Mutual Exclusivity Analysis of Tumor Mutations. Vancouver, Canada.
6. 08/2020. Huang Z, Lane AN, Fan TW, Higashi RM, Weiss HL, Yin X, **Wang C**. Differential Abundance Analysis with Bayes Shrinkage Estimation of Variance (DASEV) for Zero-Inflated Proteomic and Metabolomic Data. American Statistical Association Joint Statistical Meetings. Virtual conference.

XIV. RESEARCH & INTELLECTUAL CONTRIBUTIONS - *continued*

C. SPONSORED RESEARCH PROJECTS, GRANT & CONTRACT ACTIVITIES

- A total of 48 funded grants
- PI/contact MPI from the National Cancer Institute:
 - 1 R21 grant (\$382,304)
 - 2 R03 grants (around \$145,000 each)
- Co-I of 21 R01/P01/P20/P30 grants from National Institutes of Health
- PI/contact MPI of 2 grants (\$150,000 each) from Kentucky Lung Cancer Research Program.

Active

Project Title: Statistical Methods for Cancer Progression Delineation and Subtype Identification
Project Number: R03 CA259670
Principal Investigator(s): Wang, C
Role in Project: PI
Effort: 10%
Institution/University: University of Kentucky
Source of Funding: NIH
Duration of Project: 07/2021-06/2023
Total Award: \$149,804
Grant Number: R03 CA259670

Project Title: Characterization of Squamous Cell Lung Cancers from Appalachian Kentucky
Project Number: PO2 415 1600001032
Principal Investigator(s): MPIs: Wang, C [contact]; Arnold, S; Liu, C
Role in Project: contact MPI
Effort: 2%
Institution/University: University of Kentucky
Source of Funding: Kentucky Lung Cancer Research Program
Duration of Project: 07/2018-06/2023
Total Award: \$150,000
Grant Number: PO2 415 1600001032

Project Title: A Novel Genomic Approach for High-Throughput Drug Screening
Project Number: No ID
Principal Investigator(s): MPIs: Wang, C [contact]; Liu, C
Role in Project: contact MPI
Effort: no effort requested
Institution/University: University of Kentucky
Source of Funding: UK CCTS High Impact Pilot Award
Duration of Project: 11/2021-11/2022

Total Award: \$50,000
Grant Number: No ID

Project Title: Aberrant Glycogen Modulates Cerebral Glucose Metabolism in Aging and Alzheimer's Disease
Project Number: R01 AG066653
Principal Investigator(s): Sun, R.
Role in Project: Co-Investigator
Effort: 5%
Institution/University: University of Kentucky
Source of Funding: NIH
Duration of Project: 04/2020-03/2025
Total Award: \$1,912,500
Grant Number: R01 AG066653

Project Title: Targeting Translation Dependence in Colorectal Cancer Progression
Project Number: R01 CA175105
Principal Investigator(s): She, QB
Role in Project: Co-Investigator
Effort: 2%
Institution/University: University of Kentucky
Source of Funding: NIH
Duration of Project: 04/2013-11/2024
Total Award: \$1,816,875
Grant Number: R01 CA175105

Project Title: Non-destructive optical spectroscopic assay for high-throughput metabolic characterization of in vitro tumor models and patient-derived organoids
Project Number: R21 EB032515
Principal Investigator(s): Zhu, C
Role in Project: Co-Investigator
Effort: 2%
Institution/University: University of Kentucky
Source of Funding: NIH
Duration of Project: 08/2022-04/2025
Total Award: \$600,473
Grant Number: R21 EB032515

Project Title: G Protein Signaling in Brain Injury
Project Number: R56 NS124707
Principal Investigator(s): Andres, D
Role in Project: Co-Investigator
Effort: 2.5%
Institution/University: University of Kentucky

Source of Funding: NIH
Duration of Project: 07/2022-06/2023
Total Award: \$535,500
Grant Number: R56 NS124707

Project Title: Targeting Epigenetic Heterogeneity to Improve Lung Cancer Immunotherapy Response (CII or MONC)

Project Number: R01 CA237643
Principal Investigator(s): Brainson, C
Role in Project: Co-Investigator
Effort: 2%
Institution/University: University of Kentucky
Source of Funding: NIH
Duration of Project: 07/2019-06/2024
Total Award: \$1,749,940
Grant Number: R01 CA237643

Project Title: Mechanistic and Pharmacologic Studies of Selective Mithramycin Analogues Targeting EWS-FLI1 in Ewing Sarcoma

Project Number: R01 CA243529
Principal Investigator(s): MPIs: Leggas, M [contact]; Thorson, J; Tsodikov, O
Role in Project: Biostatistician
Effort: 1%
Institution/University: University of Kentucky
Source of Funding: NIH
Duration of Project: 06/2020-05/2025
Total Award: \$3,010,556
Grant Number: R01 CA243529

Project Title: Integrin Alpha6beta4 Regulation of Cancer Epigenetics

Project Number: R01 CA223164
Principal Investigator(s): O'Connor, K
Role in Project: Co-Investigator
Effort: 1%
Institution/University: University of Kentucky
Source of Funding: NIH
Duration of Project: 01/2019-12/2023
Total Award: \$2,330,265
Grant Number: R01 CA223164

Project Title: Ceramide and Acute Phase Proteins Elevation During Aging

Project Number: R01 AG019223
Principal Investigator(s): Nikolova-Karakashian, M
Role in Project: Co-Investigator
Effort: 1%
Institution/University: University of Kentucky

Source of Funding: NIH
Duration of Project: 08/2002-05/2023
Total Award: \$2,049,176
Grant Number: R01 AG019223

Project Title: Altered Lipid Metabolism as a Novel Target for Colon Cancer Treatment

Project Number: R01 CA208343
Principal Investigator(s): MPI: Evers, BM [contact]; Gao, T
Role in Project: Co-Investigator
Effort: 10%
Institution/University: University of Kentucky
Source of Funding: NIH
Duration of Project: 08/2017-07/2023
Total Award: \$2,113,800
Grant Number: R01 CA208343

Project Title: Mechanistic Impact of PI3K/mTOR Signaling on Intestinal Homeostasis

Project Number: R01 DK048498
Principal Investigator(s): Evers, BM
Role in Project: Co-Investigator
Effort: 5%
Institution/University: University of Kentucky
Source of Funding: NIH
Duration of Project: 03/1996-06/2025
Total Award: \$3,648,051
Grant Number: R01 DK048498

Project Title: RNA Surveillance and Protein Translation in FTD

Project Number: R01 NS115507
Principal Investigator(s): Zhu, H
Role in Project: Co-Investigator
Effort: 3%
Institution/University: University of Kentucky
Source of Funding: NIH
Duration of Project: 07/2020-06/2025
Total Award: \$2,754,540
Grant Number: R01 NS115507

Project Title: RIT1-mediated Protection Following Traumatic Brain Injury

Project Number: R01 NS102196
Principal Investigator(s): Andres, D
Role in Project: Co-Investigator
Effort: 2%
Institution/University: University of Kentucky
Source of Funding: NIH

Duration of Project: 02/2018-01/2023
Total Award: \$2,544,995
Grant Number: R01 NS102196

Project Title: University of Kentucky Markey Cancer Center – Cancer Center Support Grant
Project Number: P30 CA177558
Principal Investigator(s): Evers, BM
Role in Project: Faculty Biostatistician
Effort: 5%
Institution/University: University of Kentucky
Source of Funding: NIH
Duration of Project: 07/2013-06/2023
Total Award: \$10,763,550
Grant Number: P30 CA177558

Project Title: Methionine Metabolism and Lung Cancer Lineage Fate
Project Number: RSG-19-081-01-TBG
Principal Investigator(s): Brainson, C
Role in Project: Co-Investigator
Effort: 1%
Institution/University: University of Kentucky
Source of Funding: American Cancer Society
Duration of Project: 07/2019-06/2023
Total Award: \$792,000
Grant Number: RSG-19-081-01-TBG

Project Title: University of Kentucky Center for Cancer and Metabolism
Project Number: P20 GM121327
Principal Investigator(s): MPI: St. Clair, D [contact]; Zhou, B.P.
Role in Project: Biostatistician
Effort: 2.5%
Institution/University: University of Kentucky
Source of Funding: NIH
Duration of Project: 03/2017-12/2021
Total Award: \$11,212,250
Grant Number: P20 GM121327

Project Title: COVID-19: Evaluation of SARS-CoV-2 Positivity, Genetic Risk Factors & Outcomes in Patients Enrolled on TCC
Project Number: No ID
Principal Investigator(s): Kolesar, J
Role in Project: Co-Investigator
Effort: 2.5%
Institution/University: University of Kentucky
Source of Funding: M2Gen
Duration of Project: 10/2020-10/2025

Total Award: \$375,512
Grant Number: No ID

XIV. RESEARCH & INTELLECTUAL CONTRIBUTIONS - *continued*

C. SPONSORED RESEARCH PROJECTS, GRANT & CONTRACT ACTIVITIES – *continued*

Completed

Project Title: Statistical Detection and Biochemical Classification of Cancer Driven Mutation Patterns in Biological Networks
Project Number: R21 CA205778
Principal Investigator(s): MPI: Wang, C [contact]; Moseley, H
Role in Project: Contact MPI
Effort: 9 %
Institution/University: University of Kentucky
Source of Funding: NIH
Duration of Project: 08/2016-01/2019
Total Award: \$382,304
Grant Number: R21 CA205778

Project Title: Differential Abundance Methods for Large Heterogeneous-Featured Metabolomics Datasets
Project Number: R03 CA211835
Principal Investigator(s): MPI: Wang, C [contact]; Flight, R
Role in Project: Contact MPI
Effort: 9 %
Institution/University: University of Kentucky
Source of Funding: NIH
Duration of Project: 09/2016-08/2017
Total Award: \$145,716
Grant Number: R03 CA211835

Project Title: Harnessing Advanced Genomic and Bioinformatics Technologies for in-depth Molecular Characterization of Lung Adenocarcinoma in KY
Project Number: PO2 415 1400004000 1
Principal Investigator(s): Wang, C
Role in Project: PI
Effort: 4 %
Institution/University: University of Kentucky
Source of Funding: The Kentucky Lung Cancer Research Program
Duration of Project: 07/2015-06/2018
Total Award: \$150,000
Grant Number: PO2 415 1400004000 1

Project Title: A Probabilistic Model to Identify Unique Tumorigenesis Process of Lung Cancer in Appalachian Kentucky

Project Number: No ID
Principal Investigator(s): Wang C, Arnold S, and Liu C
Role in Project: contact MPI
Effort: 0%
Institution/University: University of Kentucky
Source of Funding: UK CCTS High Impact Pilot Award
Duration of Project: 04/2019-03/2021
Total Award: \$37,000
Grant Number: No ID

Project Title: Development of a Model-based Bioinformatics Method for Comparing Somatic Mutation Patterns between Groups, with Application to Squamous Cell Lung Cancer Data in Appalachian Kentucky

Project Number: No ID
Principal Investigator(s): Wang, C
Role in Project: PI
Effort: 0 %
Institution/University: University of Kentucky
Source of Funding: UK CCTS Junior Investigator Award
Duration of Project: 01/2015-07/2016
Total Award: \$25,000
Grant Number: No ID

Project Title: Genomics in Cancer for Appalachian Kentucky
Project Number: No ID
Principal Investigator(s): MPI: Arnold, S [contact] and Wang, C
Role in Project: MPI
Effort: 0 %
Institution/University: University of Kentucky
Source of Funding: UK CCTS
Duration of Project: 10/2013-03/2015
Total Award: \$225,000
Grant Number: No ID

Project Title: Systems Biochemistry in Lung Cancer Toward a Mechanistic Understanding of NSCLC

Project Number: P01 CA163223
Principal Investigator(s): Lane, A
Role in Project: Co-Investigator
Effort: 8 %
Institution/University: University of Kentucky
Source of Funding: NIH
Duration of Project: 03/2013-02/2020
Total Award: \$4,795,060
Grant Number: P01 CA163223

Project Title: Distinct Redox Mechanism in Normal and Cancer Cells as a Novel Therapeutic Target
Project Number: R01 CA205400
Principal Investigator(s): MPI: St Clair, D [contact]; St Clair W
Role in Project: Co-Investigator
Effort: 10%
Institution/University: University of Kentucky
Source of Funding: NIH
Duration of Project: 04/2016-03/2021
Total Award: \$1,697,812
Grant Number: R01 CA205400

Project Title: Peripheral Blood Exosome Lipids as Biomarkers of Disease Activity in Crohn's Disease
Project Number: R21 DK118954
Principal Investigator(s): Barrett, T
Role in Project: Co-Investigator
Effort: 2%
Institution/University: University of Kentucky
Source of Funding: NIH
Duration of Project: 09/2018-08/2021
Total Award: \$431,478
Grant Number: R21 DK118954

Project Title: Carryover: UK – Pediatric Brain and Central Nervous System Tumors C2417
Project Number: PON2 728 1900003176
Principal Investigator(s): Durbin, E.
Role in Project: Co-Investigator
Effort: 5%
Institution/University: University of Kentucky
Source of Funding: Kentucky Pediatric Cancer Research Trust Fund
Duration of Project: 07/2020-06/2021
Total Award: \$161,806
Grant Number: PON2 728 1900003176

Project Title: A Pilot Study of Molecular Profile Differences Between Long and Short Term Lung Cancer Survivors
Project Number: PO2 415 1600001032
Principal Investigator(s): Rangnekar, V
Role in Project: Co-Investigator
Effort: 1%
Institution/University: University of Kentucky
Source of Funding: Kentucky Lung Cancer Research Program
Duration of Project: 07/2018-06/2021
Total Award: \$150,000
Grant Number: PO2 415 1600001032

Project Title: A Novel Peptide to Inhibit Rictor-amplified Lung Tumorigenesis
Project Number: PO2 415 1600001032
Principal Investigator(s): Yang, H-S
Role in Project: Co-I
Effort: 1.5%
Institution/University: University of Kentucky
Source of Funding: Kentucky Lung Cancer Research Program
Duration of Project: 07/2018-06/2021
Total Award: \$150,000
Grant Number: PO2 415 1600001032

Project Title: A Phase I Dose Escalation Study on the Safety of Lapatinib with Dose-Dense Paclitaxel in Patients with Platinum-Resistant Ovarian Cancer
Project Number: P30 CA177558 Pilot Project
Principal Investigator(s): Ueland, F
Role in Project: Biostatistician
Effort: 1%
Institution/University: University of Kentucky
Source of Funding: NIH
Duration of Project: 07/2020-06/2021
Total Award: \$68,550
Grant Number: P30 CA177558 Pilot Project

Project Title: Utility of ctDNA in Personalized Therapy for Non-Small-Cell Lung Cancer
Project Number: PO2 415 1400004000 1
Principal Investigator(s): Kolesar, J
Role in Project: Co-I
Effort: 1%
Institution/University: University of Kentucky
Source of Funding: Kentucky Lung Cancer Research Program
Duration of Project: 07/2017-06/2021
Total Award: \$150,000
Grant Number: PO2 415 1600001032

Project Title: Natural Product-Based Modulators of 4E-BP1 Phosphorylation
Project Number: R01 CA203257
Principal Investigator(s): MPI: Thorson, J; She, Q-B
Role in Project: Co-Investigator
Effort: 1%
Institution/University: University of Kentucky
Source of Funding: NIH
Duration of Project: 04/2016-03/2021
Total Award: \$1,933,963
Grant Number: R01 CA203257

Project Title: Selection of Personalized Cancer Therapies by Evaluating Intratumoral Heterogeneity and Phylogentic Analysis
Project Number: No ID
Principal Investigator(s): Kolesar, J
Role in Project: Co-Investigator
Effort: 0 %
Institution/University: University of Kentucky
Source of Funding: CCSG pilot grant
Duration of Project: 07/2018-06/2019
Total Award: \$50,000
Grant Number: No ID

Project Title: Latexin function in the maintenance and regeneration of the hematopoietic system
Project Number: R01 HL124015
Principal Investigator(s): Liang, Y
Role in Project: Co-Investigator
Effort: 5 %
Institution/University: University of Kentucky
Source of Funding: NIH
Duration of Project: 01/2016-12/2020
Total Award: \$1,250,000
Grant Number: R01 HL124015

Project Title: Novel pRNA Nanoparticle Delivery as Directed Therapy for Colorectal Cancer Metastasis
Project Number: R01 CA195573
Principal Investigator(s): MPI: Evers, BM [contact]; Guo, P; Thorson, J
Role in Project: Biostatistician
Effort: 5 %
Institution/University: University of Kentucky
Source of Funding: NIH
Duration of Project: 09/2015-08/2020
Total Award: \$1,384,065
Grant Number: R01 CA195573

Project Title: Regulation of Snail in breast cancer progression and metastasis
Project Number: R01 CA125454
Principal Investigator(s): Zhou, B
Role in Project: Co-Investigator
Effort: 5 % (effort only in 2016-2018)
Institution/University: University of Kentucky
Source of Funding: NIH
Duration of Project: 12/2006-04/2018
Total Award: \$921,710

Grant Number: R01 CA125454
Project Title: Role of Tc11 and par-4 in regulation of chronic lymphocytic leukemia
Project Number: R01 CA165469
Principal Investigator(s): MPI: Bondada, S; Rangnekar V
Role in Project: Co-Investigator
Effort: 3 %
Institution/University: University of Kentucky
Source of Funding: NIH
Duration of Project: 02/2013-01/2018
Total Award: \$1,386,095
Grant Number: R01 CA165469

Project Title: A role for c-Abl/Arg in Melanoma Progression
Project Number: R01 CA166499
Principal Investigator(s): Plattner, R
Role in Project: Co-Investigator
Effort: 5 %
Institution/University: University of Kentucky
Source of Funding: NIH
Duration of Project: 09/2012-08/2017
Total Award: \$1,062,435
Grant Number: R01 CA166499

Project Title: Assessing the Mechanism of Drug Resistance in Lung Cancer
Project Number: PO2 415 1600001032
Principal Investigator(s): Kolesar, J
Role in Project: Co-Investigator
Effort: 1%
Institution/University: University of Kentucky
Source of Funding: Kentucky Lung Cancer Research Program
Duration of Project: 07/2018-06/2022
Total Award: \$150,000
Grant Number: PO2 415 1600001032

Project Title: Genomic Architecture of a Key Alzheimer's Disease mimic: CARTS
Project Number: R56 AG057191
Principal Investigator(s): Fardo, D
Role in Project: Co-Investigator
Effort: 5%
Institution/University: University of Kentucky
Source of Funding: NIH
Duration of Project: 05/2019-02/2022
Total Award: \$1,079,062

Grant Number: R56 AG057191

Project Title: Targeting Epigenetic Heterogeneity to Improve Lung Cancer Immunotherapy Response (CII or MONC)

Project Number: R21 AA026787

Principal Investigator(s): Chen, G

Role in Project: Co-Investigator

Effort: 2.5%

Institution/University: University of Kentucky

Source of Funding: NIH

Duration of Project: 02/2019-01/2022

Total Award: \$401,626

Grant Number: R21 AA026787

Project Title: Roles of RORalpha in Breast Cancer Development and Progression

Project Number: R01 CA215095

Principal Investigator(s): Xu, R

Role in Project: Co-Investigator

Effort: 5% Yrs 3 and 5 only

Institution/University: University of Kentucky

Source of Funding: NIH

Duration of Project: 07/2017-06/2022

Total Award: \$1,726,893

Grant Number: R01 CA215095

Project Title: Identification of Lung Adenocarcinoma Subtypes using Radiogenomics and Deep Learning

Project Number: PO2 415 1600001032

Principal Investigator(s): Chen, J

Role in Project: Co-I

Effort: 1%

Institution/University: University of Kentucky

Source of Funding: Kentucky Lung Cancer Research Program

Duration of Project: 07/2018-06/2022

Total Award: \$150,000

Grant Number: PO2 415 1600001032

Project Title: Translational Control in CR(VI) Carcinogenesis

Project Number: R21 ES031712

Principal Investigator(s): She, QB

Role in Project: Co-Investigator

Effort: 1% Yr1, 2% Yr2

Institution/University: University of Kentucky

Source of Funding: NIH

Duration of Project: 06/2020-05/2022

Total Award: \$688,500
Grant Number: R21 ES031712

Project Title: Germline and Environmental Factors Associated with Pediatric Brain and Central Nervous System Tumors in Kentucky

Project Number: No ID
Principal Investigator(s): Durbin, E
Role in Project: Co-Investigator
Effort: 5%
Institution/University: University of Kentucky
Source of Funding: Pediatric Cancer Research Trust Fund
Duration of Project: 07/2020-06/2022
Total Award: \$499,715
Grant Number: No ID

Project Title: Novel Antibody-Enzyme Fusion Therapy Targeting Ewing's Sarcoma

Project Number: No ID
Principal Investigator(s): Sun, R
Role in Project: Co-Investigator
Effort: 1%
Institution/University: University of Kentucky
Source of Funding: V Foundation
Duration of Project: 07/2020-06/2022
Total Award: \$200,000
Grant Number: No ID

XIV. RESEARCH & INTELLECTUAL CONTRIBUTIONS - *continued*

E. OTHER CREATIVE ACTIVITIES [oldest at top, newest at bottom; include innovative materials, clinical protocols, institutional packages, modules, computer programs, innovative teaching materials, patented and copyrighted intellectual property; describe where work used and by whom]

Software

bacr: an R package that implements the Bayesian Adjustment for Confounding (BAC) method for estimating the average causal effect of a treatment on an outcome from cohort studies. The software package is available at [CRAN](#).

NanoStringDiff: an R package to perform differential expression analysis based on gene expression data generated from the NanoString nCounter system. The software package is available at [Bioconductor](#).

SDAMS: an R package that implements a semiparametric method for differential abundance/expression analysis of proteomic, metabolomic and scRNAseq data. The software package is available at [Bioconductor](#).

PATOPA: a bioinformatics software to delineate the temporal order of driver mutations during carcinogenesis by leveraging functional annotation and pathway information. The software is available at [GitHub](#).

DASEV: an R package that implements a two-part model with Bayesian shrinkage estimation of variance for differential abundance analysis of proteomic and metabolomic data. The software package is available at <http://sweb.uky.edu/~cwa236/DASEV.html>.

MEScan: a bioinformatics software to identify cancer driver mutations by genome-wide screen of mutually exclusive mutation patterns. The software is available at [GitHub](#).

XV. OTHER ACTIVITIES [oldest at top, newest at bottom; writing board examinations, curricular design committees]

Not applicable.

END OF DOCUMENT