

# LI CHEN

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## EDUCATION

**Ph.D. Biostatistics**, August 2009  
University of North Carolina at Chapel Hill, Chapel Hill, NC

**M.S. Statistics**, July 2004, Peking University, Beijing, China

**B.S. Statistics**, July 2001, Peking University, Beijing, China

## PROFESSIONAL EXPERIENCE

**Associate Professor**, July 2016 – Present  
Division of Cancer Biostatistics, Department of Biostatistics, College of Public Health and Biostatistics and Bioinformatics Shared Resource Facility, Markey Cancer Center, University of Kentucky

**Assistant Professor**, September 2010 – June 2016  
Division of Cancer Biostatistics, Department of Biostatistics, College of Public Health and Biostatistics and Bioinformatics Shared Resource Facility, Markey Cancer Center, University of Kentucky

**Postdoctoral Research Associate**, October 2009 – August 2010  
Department of Biostatistics, University of North Carolina at Chapel Hill

**Research Assistant**, August 2005 – August 2009  
Department of Biostatistics, University of North Carolina at Chapel Hill

## HONORS AND AWARDS

2011	Larry Kupper Dissertation Publication Award, Department of Biostatistics, University of North Carolina at Chapel Hill
2010	Barry H. Margolin Dissertation Award, Department of Biostatistics, University of North Carolina at Chapel Hill
2005	Pass with Special Commendations in Qualifying Exams, Department of Biostatistics, University of North Carolina at Chapel Hill
2004 - 2005	Merit Assistantship of University of North Carolina at Chapel Hill
2004	Title of “Outstanding Graduate of Peking University”
2001 - 2003	Canon Special Scholarship of Peking University
1999 - 2000	NKK Scholarship of Peking University

## PUBLICATIONS

1. **Chen L**, Lin DY, Zeng D. Attributable fraction functions for censored event times. *Biometrika* 97: 713-726, 2010.

2. Davison BA, Cotter G, Sun H, **Chen L**, Teerlink JR, Metra M, Felker GM, Voors AA, Ponikowski P, Filippatos G, Greenberg B, Teichman SL, Unemori E, Koch GG. Permutation criteria to evaluate multiple clinical endpoints in a proof-of-concept study: lessons from Pre-RELAX-AHF. *Clin Res Cardiol.* 100(9): 745–753, 2011.
3. **Chen L**, Lin DY, Zeng D. Predictive accuracy of covariates for event times. *Biometrika* 99(3): 615-630, 2012.
4. **Chen L**, Lin DY, Zeng D. Checking transformation models with censored data. *Biostatistics* 13(1): 18–31, 2012.
5. **Chen L**, Romond E, Chokshi S, Saeed H, Hodskins J, Stevens M, Pasley G, Weiss H, Massarweh S. A prognostic model of early breast cancer relapse after standard adjuvant therapy and comparison with metastatic disease on initial presentation. *Breast Cancer Res Treat.* 136(2): 565-72, 2012.
6. Feddock J, Arnold SM, Shelton BJ, Sinha P, Conrad G, **Chen L**, Rinehart J, McGarry R. Stereotactic body radiotherapy (SBRT) can be used safely to boost residual disease in locally advanced non-small cell lung cancer (NSCLC): a prospective study. *Int J Radiat Oncol Biol Phys.* 85(5): 1325-31, 2013.
7. Sui X, Li H, Zhang J, **Chen L**, Zhu L, Blair SN. Percentage of Deaths Attributable to Poor Cardiovascular Health Lifestyle Factors: Findings from the Aerobics Center Longitudinal Study. *Epidemiology Research International* Volume 2013 (2013), Article ID 437465.
8. Shang Y, Lin Y, Henry BA, Cheng R, Huang C, **Chen L**, Shelton BJ, Swartz KR, Salles SS, Yu G. Noninvasive evaluation of electrical stimulation impacts on muscle hemodynamics via integrating diffuse optical spectroscopies with muscle stimulator. *Journal of biomedical optics.* 18(10): 105002-105002, 2013.
9. Feddock J, Cleary R, Arnold S, Shelton BJ, **Chen L**, Sinha P, Conrad G, Rinehart J., McGarry RC. Risk for fatal pulmonary hemorrhage does not appear to be increased following dose escalation using Stereotactic Body Radiotherapy (SBRT) in Locally Advanced Non-Small Cell Lung Cancer. *Journal of Radiosurgery and SBRT.* 2(3): 235-242, 2013.
10. McGarry RC, Feddock J, Sinha P, Conrad G, Shelton BJ, **Chen L**, Arnold S M, Rinehart J. Early postchemoradiation PET/CT for assessing responses of stage II-III non-small cell lung cancer to treatment. *Journal of Radiosurgery and SBRT.* 2(4): 315-323, 2013.
11. **Chen L**, Voronovich Z, Clark K, Hands I, Mannas J, Walsh M, Nikiforova MN, Durbin EB, Weiss H, Horbinski C. Predicting the likelihood of an isocitrate dehydrogenase 1 or 2 mutation in diagnoses of infiltrative glioma. *Neuro-Oncology* 16(11): 1478-83, 2014.
12. Alqaisi A, **Chen L**, Romond E, Stevens M, Pasley G, Massarweh S. Impact of estrogen receptor (ER) and human epidermal growth factor receptor-2 (HER2) co-expression on breast cancer disease characteristics: Implications for tumor biology and research. *Breast Cancer Res Treat* 148(2): 437-44, 2014.
13. Baldwin LA, Hoff JT, Lefringhouse J, Zhang M, Jia C, Liu Z, Erfani S, Jin H, Xu M, She QB, van Nagell JR, Wang C, **Chen L**, Plattner R, Kaetzel DM, Luo J, Lu M, West D, Liu C, Ueland FR, Drapkin R, Zhou BP, Yang XH. CD151- $\alpha\beta$ 1 integrin complexes suppress ovarian tumor growth by repressing slug-mediated EMT and canonical Wnt signaling. *Oncotarget* 5(23): 12203-17, 2014.
14. Chen A, **Chen L**, Al-Qaisi A, Romond E, Awasthi M, Kadamyian-Melkumyan V, Massarweh S. Everolimus-induced hematologic changes in patients with metastatic breast cancer. *Clinical Breast Cancer* 15(1): 48-53, 2015.
15. Zhang Y, Wang Q, **Chen L**, Yang HS. Inhibition of p70S6K1 activation by Pcd4 overcomes the resistance to IGF-1R/IR inhibitor in colon carcinoma cells. *Molecular Cancer Therapeutics* 14(3): 799-809, 2015.
16. Haque F, Wang S, Stites C, **Chen L**, Wang C, Guo P. Single pore translocation of folded, double-stranded, and tetra-stranded DNA through channel of bacteriophage phi29 DNA

- packaging motor. *Biomaterials* 53:744-52, 2015.
17. Zhou P, Erfani S, Liu Z, Jia C, Chen Y, Xu B, **Chen L**, Lu M, Liu C, Porter N, Thibault O, Segal R, Zhou B, Kyprianou N, Horbinski C, Yang X. CD151- $\alpha$ 3 $\beta$ 1 Integrin Complexes are Prognostic Markers of Glioblastoma and Cooperate with EGFR to Drive Tumor Cell Motility and Invasion. *Oncotarget* 6(30):29675-93, 2015.
  18. Edwards D, Machwe A, **Chen L**, Bohr V, Orren D. The DNA structure and sequence preferences of WRN underlie its function in telomeric recombination events. *Nature Communications*. Sep 30;6:8331, 2015.
  19. Shields LBE, Shelton B, Shearer A, **Chen L**, Sun DA, Parsons S, Bourne TD, LaRocca R, Spalding AC. Dexamethasone Administration during Curative Radiation and Temozolomide Renders a Poor Prognosis in a Retrospective Analysis of Newly Diagnosed Glioblastoma Patients. *Radiat Oncol*. 10:222, 2015.
  20. Martin JT, Durbin EB, **Chen L**, Gal T, Mahan A, Ferraris V, Zwischenberger J. Nodal upstaging during lung cancer resection is associated with surgical approach. *Annals of Thoracic Surgery*. 101(1):238-45, 2016.
  21. Lacy JM, William A, Wilson WA, Bole R, **Chen L**, Meigooni AS, Rowland RG, St Clair WH. Salvage Brachytherapy for Biochemically Recurrent Prostate Cancer Following Primary Brachytherapy. *Prostate Cancer*. Volume 2016 (2016), Article ID 9561494.
  22. Dong L, Kudrimoti M, Irwin D, **Chen L**, Kumar S, Shang Y, Huang C, Johnson EL, Stevens SD, Shelton BJ, Yu G. Diffuse optical measurements of head and neck tumor hemodynamics for early prediction of chemoradiation therapy outcomes. *J. Biomed. Opt.* 21(8): 085004, 2016.
  23. Schwarze SR, Khoury L, Thomas C, Benjamin CG, Chen R, **Chen L**, Dawson C, Liu Y, Song Kristine, Pacione D, David Zagzag D, McIntyre T, Snuderl M, Horbinski C. Mutant IDH1 and Thrombosis in Gliomas. *Acta Neuropathologica* Accepted.

#### SUBMITTED MANUSCRIPTS

1. Yang Y, Shelton BJ, Tucker TC, Li L, Kryscio RJ, **Chen L** (senior author). Estimation of Exposure Distribution Adjusting for Dependence between Exposure Level and Detection Limit. In Revision for *Statistics in Medicine*.
2. Hao Chen, Jonathon Judkins, Cheddhi Thomas, Meijing Wu, Laith Khoury, Carolina G. Benjamin, Donato Pacione, Priya Kumthekar, Farhad Ghamsari, **Chen L**, Pamela Lein, Matija Snuderl, Craig Horbinski, Mutant IDH1 and seizures in glioma patients. Submitted to *Neurology*.

#### GRANTS

##### Ongoing

R03 1R03CA179661-01A1 (PI: Chen, L)	05/01/15-04/30/17	2.8 (2.7) calendar months in year 1 (2)
NIH	\$50,000	
“Statistical Methods for Environmental Data Subject to Detection Limits”		
Goals: To develop unified and efficient nonparametric statistical methods for estimating and comparing environmental exposure distributions in presence of detection limits.		
Role: Principle Investigator		
R03 CA211835 (MPI: Wang, C; Flight, R)	09/14/16-08/31/17	0.48 calendar months
NIH	\$100,000	
“Differential Abundance Methods for Large Heterogeneous-Featured Metabolomics Datasets”		

Goals: 1) To develop novel informatics methods to assess and reduce the impact of metabolite assignment and correspondence uncertainty on downstream analyses; and 2) to develop a novel semi-parametric statistical method to perform differential abundance analysis.

Role: Co-investigator

R01 CA188118 (PI: Zhou, P) 04/01/15-03/31/20 0.48 calendar months  
NIH \$244,342 Years 4-5 only

“Determine the Functional Role Dub3 in Breast Cancer Progression and Metastasis”

Goals: To delineate the molecular mechanism by which Dub3 controls EMT; to determine the function and regulation of Dub3 in breast cancer; and to define the function and therapeutic efficacy of Dub3 in vivo.

Role: Biostatistician

P30 CA177558 (PI: Evers, BM) 07/08/13-06/30/18 1.2 calendar months  
NIH \$1,150,000

“University of Kentucky Markey Cancer Center – Cancer Center Support Grant”

Goals: To support the ongoing research infrastructure, research programs, shared resources, developmental funds, and administration of the Markey Cancer Center to ensure the development of more effective approaches to cancer prevention, diagnosis, and therapy.

Role: Faculty Biostatistician

P0241513000011261 (PI: Izumi, T) 07/01/14-06/30/16 0.12 calendar months  
Kentucky Lung Cancer Research Fund \$68,182

“DNA Damage Biomarkers for Carcinogenesis Related to Tobacco Product Use”

Goal: To examine relationships between tobacco smoke exposure, induced DNA damage, and DNA damage responses in regard to development of head and neck squamous cell carcinoma.

Role: Biostatistician

No ID (Co-PI: Izumi, T and Orren, DK) 02/01/14-06/30/15 0.12 calendar months  
UK Markey Cancer Center CCSG Pilot Grant \$50,000

“DNA Damage Response in Normal and Tumor Cells of Head and Neck”

Goal: To determine if the levels and nuclear/cytoplasmic distributions of APE1 and SOD3 in precancerous oral tissues could be used as biomarkers for diagnosis and treatment of head and neck squamous cell carcinoma (HNSCC).

Role: Biostatistician

No ID (PI: Xu, R) 01/01/15-12/31/15 0.24 calendar months  
UK Markey Cancer Center CCSG Pilot Grant \$50,000

“Identify P4HA1/2 as therapeutic targets and prognosis markers for TNBC”

Goal: To determine activity of P4H inhibitors in inhibiting TNBC progression and to assess the prognosis value of P4HA1/2 in TNBC.

Role: Co-investigator

W81XWH-16-1-0066 (PI: Yiwei Lin) 10/01/2015-09/30/2018 0.24 calendar months  
Army Medical Research and Materiel Command

“Define the Twist-ATX-LPAR1 signaling axis in promoting obesity-associated triple negative breast cancer”

Goal: To delineate the function and regulation of Twist, and to explore the therapeutic potential of targeting Twist-ATX-LPAR1 axis in TNBC and obesity

Role: Co-investigator

PO2 415 1400004000 1 (PI: Eddens, K) 07/01/2016-06/30/2018 0.12 calendar months  
Kentucky Lung Cancer Research Fund \$75,000  
“Connecting Appalachians to Lung Cancer Screening”  
Goal: To examine the social ties and communication networks influence on diffusion of lung cancer screening in an Appalachian population at high risk for lung cancer  
Role: Co-investigator

### **Completed**

No ID (PI: Nancy E. Johnson) 01/23/12—01/21/13 0.72 calendar months  
Markey Cancer Center Pilot Award \$50,000  
“Lung Cancer in Appalachian Kentucky: Elemental Composition of Soils Accessible to Residential Interiors and Distribution Across Soil Fractions, sized 250  $\mu\text{m}$ , 100  $\mu\text{m}$ , 10  $\mu\text{m}$ , and 2.5  $\mu\text{m}$ ”  
Goal: Assess soil as a source of population exposure by ingestion or inhalation.  
Role: Biostatistician

### **PRESENTATIONS**

1. *Analysis of Longitudinal Data With Informative Dropout*. Contributed talk, Joint Statistical Meetings, 2007.
2. *Checking Transformation Models With Censored Data*. Poster, ENAR spring meeting, 2009.
3. *Attributable Fraction Functions for Censored Event Times*. Contributed talk, ENAR spring meeting, 2010.
4. *Predictive Accuracy of Covariates for Event Times*. Contributed talk, ENAR, 2011.
5. *Attributable Fraction Functions for Censored Event Times*. Invited talk, University of South Carolina, 2011.
6. *A Predictive Model of Early Relapse after Standard Adjuvant Therapy for Breast Cancer*. Poster, San Antonio Breast Cancer Symposium, 2011.
7. *Characteristics of de novo Stage IV Breast Cancer Presentation and Comparison with Stage IV Disease Relapse after Adjuvant Therapy*. Poster, San Antonio Breast Cancer Symposium, 2011.
8. *Predictive Accuracy of Covariates for Survival Outcomes*. Invited talk, 2nd International Conference and Exhibition on Biometrics & Biostatistics, 2013.
9. *Predictive Accuracy of Covariates for Survival Outcomes*. Invited talk, Statistics Department colloquium, University of Kentucky, 2013.
10. *Predictive Accuracy of Time-dependent Markers for Survival Outcomes*. Contributed talk, ENAR, 2014.
11. *Predictive Accuracy of Time-dependent Markers for Survival Outcomes*. Invited talk, Joint Applied Statistics Symposium of International Chinese Statistical Association & Korean International Statistical Society, 2014.

### **PROFESSIONAL ACTIVITY AND PUBLIC SERVICES**

Editorial Board Member:

- *Cancer Studies and Molecular Medicine*

Journal Referee:

- Statistical journals:
  - *Biometrika*
  - *Journal of the American Statistical Association*
  - *Biometrics*

- *Biostatistics*
- *Statistics in Medicine*
- *Scandinavian Journal of Statistics*
- *Journal of Statistical Planning and Inference*
- *Lifetime Data Analysis*
- *Computational Statistics and Data Analysis*
- *Journal of Biometrics and Biostatistics*
- *Computational Statistics*
- Medical and public health journals:
  - *Journal of Clinical Oncology*
  - *American Journal of Epidemiology*
  - *Journal of Rural Health*

School/University Service:

- Grant Reviewer:
  - Markey Cancer Center pilot grant (2011), ACS IRG grant (2012, 2013), BUCK (2014), Markey Cancer Center CCSG pilot grant (2014), KLCR grant (2015)
- Committees:
  - CPH practice and service committee (2011-present)
  - CPH joint PHD program qualify exam committee (2011-present)

## TEACHING

**Instructor**, Fall 2011, Fall 2012, Fall 2013, Fall 2015  
 Department of Biostatistics, University of Kentucky  
*Time to Event Analysis (BST 761)*

**Guest Lecturer**, Fall 2013  
 College of Medicine, University of Kentucky  
*Practical Statistics (IBS611): Survival Analysis*

**Guest Lecturer**, 2010, 2011, 2013  
 Markey Cancer Center, University of Kentucky  
 Markey Cancer Center Biostatistics Lecture Series: *Basic Statistics Review*

**Teaching Assistant**, Fall 2006  
 Department of Biostatistics, University of North Carolina at Chapel Hill  
*Principles of Statistical Inference (Bios 600)*

## ADVISING AND MENTORING

Current Students (4):  
 PhD Dissertation Co-advisor (with Richard Kryscio) for Yuchen Yang (Statistics)  
 PhD Dissertation committee member for Lijie Wan (Statistics)  
 PhD Dissertation committee member for Zhiyuan Shen (Statistics)  
 PhD Dissertation committee member for Yifan Yang (Statistics)

Statistical Mentor for Hematology/Oncology Fellows (3):  
 Jessica Moss (2011-2012)  
 Swati Yalamanchi (2013)

Abeer Al-Qaisi (2013-2014)

**MEMBERSHIP IN PROFESSIONAL SOCIETIES**

American Statistical Association  
International Biometric Society  
Chinese Statistical Association