Hee Cheol Chung

CONTACT INFORMATION

Department of Statistics
Texas A&M University
3143 TAMU, College Station, TX 77843

Phone: +1-678-713-1727
E-mail: hcchung@tamu.edu

RESEARCH INTERESTS

Bayesian Analysis, Data integration, Graphical models, High dimensional data analysis Small area estimation, Statistical learning

ACADEMIC POSITION

Postdoctoral Research Associate, Jun. 2020-Present
Texas A&M Institute of Data Science Postdoctoral Program
Texas A&M University, College Station, TX
Supervisors: Raymond J. Carrol, Irina Gaynanova and Yang Ni

EDUCATION

Ph.D. in Statistics, May 2020
University of Georgia, Athens, GA
Under the direction of Gauri Sankar Datta and Jeongyoun Ahn

M.A. in Applied Statistics, Feb. 2014
Yonsei University, Seoul, Korea

B.A. in Applied Statistics and B.S. in Physical Education, Aug. 2009
Yonsei University, Seoul, Korea

PUBLICATIONS

[1] **Chung, H. C.**, Ahn, J. (2021) "Subspace rotations for high dimensional outlier detection", *Journal of Multivariate Analysis*, https://doi.org/10.1016/j.jmva.2020.104713

[2] Ahn, J., **Chung, H. C.**, Jeon, Y. (2020) "Trace ratio optimization for high-dimensional multi-class discrimination", *Journal Computational and Graphical Statistics*, https://doi.org/10.1080/10618600.2020.1807352

[3] Bell, W. R., **Chung, H. C.**, Datta, G. S., Franco, C. (2019) "Measurement error in small area estimation: functional versus structural versus naïve models", *Survey Methodology*, https://www150.statcan.gc.ca/n1/pub/12-001-x/2019001/article/00005-eng.htm

[4] **Chung, H. C.**, Datta, G. S., Maples, J. (2019) "Estimation of median incomes of the American states: Bayesian estimation of means of subpopulations," in *Opportunities and Challenges for Development: Essays for Sarmila Banerjee*, ed. Bandyopadhyay, S. and Dutta, M., Springer International, https://doi.org/10.1007/978-981-13-9981-7_23

[5] Markley, S., Hafley T., Allums C., Holloway S., **Chung, H. C.** (2020) "The limits of homeownership: Racial capitalism, black wealth, and the appreciation gap in Atlanta", *International Journal of Urban and Regional Research*, https://doi.org/10.1111/1468-2427.12873

[6] Fang, X., Sun, W., Jeon J., Azain M., Kinder H., Ahn J., **Chung, H.C.**, Filipov, N., Zhao, Q., Rayalam S., and Park, H. (2020) "Perinatal docosahexaenoic acid supplementation improves cognition and alters brain functional organization in piglets", *Nutrient*, https://doi.org/10.3390/nu12072090

[7] Fang, X., Jeon, J., Kinder, H., Azain, M., Zhao, Q., Ahn, J., **Chung H. C.**, Park, H. J. (2019). "The effect of maternal supplementation of lutein and docosahexaenoic acid on behavior and brain structures in offspring in a pig model (P11-005-19). *Current Developments in Nutrition*, 3 (Abstract publication in a conference proceeding).

MANUSCRIPT UNDER REVIEW

[8] **Chung, H. C.**, Datta, G. S. (2021+) "Hierarchical Bayesian spatial models for small area estimation', Preprint

HONORS AND AWARDS

Graduate School Travel Award,
University of Georgia, Department of Statistics, Athens, GA   2019

Richard G. Neal, Jr. Graduate Support Fund
University of Georgia, Department of Statistics, Athens, GA   2019

Outstanding Student Paper Award,
Korean International Statistical Society, Portland, OR   2017

RDC Travel Grant,
University of Georgia, Department of Statistics, Athens, GA   2017

Best Beginning Ph.D. Student,
University of Georgia, Department of Statistics, Athens, GA   2016

Graduate Inductee,
Mu Sigma Rho: The National Statistical Honorary Society   2016

Graduate School Assistantship (fellowship equivalent),
University of Georgia, Graduate School, Athens, GA   2014-2016

Jinli Scholarship (Merit-based),
Yonsei University, Seoul, Korea   2006

PRESENTATIONS

Computational and Methodological Statistics (CMStatistics 2020)   Dec. 2020
    "Phylogenetically informed Bayesian truncated copula graphical models for microbial association networks" (invited)

Joint Statistical Meeting, Denver, CO, USA   Jul. 2019
    "Subspace rotations for high-dimensional outlier detection" (contributed)

Deep Learning Group Meeting, Athens, GA   Jul. 2018
    "MCMC in deep learning"

Joint Statistical Meeting, Vancouver, BC, Canada   Jul. 2018
  "Random dual rotation: generalized permutation test for high dimension, low sample size data" (poster)

UGA/Clemson Joint Seminar, Athens, GA   Jul. 2018
  "Random dual rotation: generalized permutation test for high dimension, low sample size data" (poster)

RTI, Research Triangle Park, NC   Jun. 2017
  "Bayesian computation with R" (invited)

Centers for Disease Control and Prevention, Atlanta, GA   Apr. 2017
  "Bayesian computation in small area estimation with Stan" (invited)

Recent Developments in Statistical Science and Its Applications, Chung-Ang University, Seoul, Korea   Jul. 2016
  "Outlier detection for HDLSS data via random dual rotation" (invited)

ACADEMIC EXPERIENCES

Research Assistantship

Department of Statistics, University of Georgia   Fall 2019 – Spring 2020
Building a public-use small area panel price index database using scanner data.
(*Funded by USDA National Institute of Food and Agriculture*)
Supervisors: Chen Zhen and Gauri Sankar Datta

Department of Statistics, University of Georgia   Fall 2016 – Spring 2017
Small area estimation model and statistical software development for analysis of publicly available census, health survey, and surveillance data for improving district-level estimation of HIV prevalence in South Africa,
(*Funded by Centers for Disease Control and Prevention*)
Supervisor: Gauri Sankar Datta

Department of Applied Statistics, Yonsei University   Fall 2013
Development for sufficient dimension reduction methods for Bernoulli predictors
Supervisor: Hakbae Lee

Statistical Consulting

Abt Associates, Cambridge, MA   Jan. – Mar. 2018
Provide advices for hierarchical Bayesian modeling and statistical computing

Invited Referee

The American Statistician   Jan. 2018

Teaching Assistantship

Department of Statistics, University of Georgia

STAT6800 – Tools for Statistical Theory (graduate)   Fall 2019
  - Guest lecturer

MSIT3000 – Statistical Analysis for Business (undergraduate)   Summer 2019
  - Leading a discussion session (online)

STAT8530 – Advanced Statistical Inference (graduate)   Spring 2019
  - Grading and solution preparation

STAT6820 – Statistical Inference (graduate)   Spring 2019
  - Leading discussion session, grading and solution preparation

STAT8210 – Multivariate: Theory and Methods (graduate)   Fall 2018
  - Grading, lecture material and solution preparation

Statistics Bootcamp for new graduate students   Summer 2017, 2018, 2019
  - Leading discussion session on Mathematical Analysis and Linear Algebra

STAT4220 – Experimental Design (undergraduate)   Fall 2017
  - Grading and leading discussion session

STAT2000 – Introductory Statistics (undergraduate)
  - Computer lab lecturing (3 hours per week)   Spring 2018, Summer 2018
  - Computer lab lecturing (2 hours per week)   Fall 2014, Spring 2015

Department of Applied Statistics, Yonsei University
STA1001 - Introduction to Statistics (undergraduate)   2009, 2012
  - Leading problem solving sessions (1 hour per week)

Middle School Teaching Internship
College of Sciences in Education, Yonsei University
EDU4102 - Educational Field Research (Daeshin Middle School)
  - 4 weeks of teaching practice (physical education)   Oct. 2008

Instructor
Department of Physical Education, Yonsei University
PED1122 - Winter Sports Camp (graduate and undergraduate)
  - Snowboad instructor   Spring 2005

PROGRAMMING SKILL	Bash (Unix shell), C++, Java, Matlab, Python, R, SAS, Stan

PROFESSIONAL AFFILIATIONS	American Statistical Association (ASA)	2015 – Present
	International Biometric Society (IBS)	2015 – Present
	Institute of Mathematical Statistics (IMS)	2015 – Present
	Korean International Statistical Society (KISS)	2018 – Present

PERSONAL EXPERIENCES

Martial Arts
Purple Belt in Brazilian Jiu-Jitsu under Adam and Rory Singer   July. 2017

Military Service
Sergeant, Army Cadet Military School, Republic of Korea Army   2010 – 2012

An Exemplary Soldier, Republic of Korea Army   March. 2011

Snowboarding

AFRO Snowboard Camp, Gangwon, Korea	Winter 2006 – 2008
Halfpipe Main Coach	

Jisan Open Big Air Championship, Gyeonggi, Korea   Winter 2007
    Big Air 6th place

Innsbruck Winter Universiade Snowboard National Team of Korea   Jan. 2005
    Halfpipe 19th place

Snowboard Halfpipe National B Team of Korea   2000 – 2005

High-School Snowboard Championship, Korean Boadcasting System   Jan. 2002
    Halfpipe 1st place (Junior)

Snowboard National Championship, Korea Ski Association   Jan. 2002
    Halfpipe 2nd place (Junior)

Snowboard National Championship, Korea Ski Association   Jan. 2001
    Giant-Slalom 3rd place (Junior)

Sponsorship
    Nitro Snowboard   2001 – 2007
    Grenade Gloves   2005 – 2007