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. Carroll, 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 IN PREPARATION

[8] **Chung, H. C.**, Gaynanova, I., Ni, Y. (2021+) "Phylogenetically informed Bayesian truncated copula graphical models for microbial association networks", (under review, preprint)

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

Invited Presentations:

Department of Mathematics and Statistics, UMBC	Dec. 2020
Computational and Methodological Statistics (CMStatistics 2020)	Dec. 2020
RTI, Research Triangle Park, NC	Jun. 2017
Centers for Disease Control and Prevention, Atlanta, GA	Apr. 2017
Department of Applied Statistics, Chung-Ang University, Seoul, Korea	Jul. 2016

Contributed Presentations:

Joint Statistical Meeting, Denver, CO, USA	Jul. 2019
Deep Learning Group Meeting, Athens, GA	Jul. 2018
Joint Statistical Meeting, Vancouver, BC, Canada	Jul. 2018
UGA/Clemson Joint Seminar, Athens, GA	Jul. 2018

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 of dimension reduction methodologies
Supervisor: Hakbae Lee

Statistical Consulting

Abt Associates, Cambridge, MA   Jan. – Mar. 2018

Invited Referee

Journal of Computational and Graphical Statistics	Mar. 2021
The American Statistician	Jan. 2018

Guest Lecturer

Department of Statistics, Texas A&M University
STAT639 – Data Mining and Analysis (graduate)   Spring 2021
  • Principal Component Analysis

Department of Statistics, University of Georgia
STAT8350 – Bayesian Statistical Methodology (graduate)   Spring 2021
  • Hamiltonian Monte Carlo and rstan
STAT6800 – Tools for Statistical Theory (graduate)   Fall 2019
  • Matrix Algebra useful for Statistics

Teaching Assistantship

Department of Statistics, University of Georgia
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)
- Lab class lecturing (3 hours per week)   Spring 2018, Summer 2018
- Lab class 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
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