


Name	Soyeon Ahn	
Country	South Korea	
Organization	Seoul National University Bundang Hospital	
Current Position	Associate professor	

Educational Background

1999 - 2003	B.S. (Statistics) Seoul National University, Seoul, Korea
2003 - 2009	Ph.D. (Statistics) University of California, Berkeley, U.S.A.

Professional Experiences

2009 - 2011	<i>Postdoctoral fellow</i> Department of Statistics Seoul National University, Seoul, Korea
2014 - 2016	<i>Research assistant professor</i> Medical Research Collaborating Center Seoul National University Bundang Hospital, Korea
2016 – 2020	<i>Assistant professor</i> Medical Research Collaborating Center Seoul National University Bundang Hospital, Korea
2020 – present	<i>Associate professor</i> Medical Research Collaborating Center Seoul National University Bundang Hospital, Korea

Main Scientific Publications

Ahn, S., J. Lim, S.Y. Park, H. Kim, H.J. Kwon, Y.B. Han, C.T. Lee, S. Cho, and J.H. Chung, *Genetic Alterations in Preinvasive Lung Synchronous Lesions*. *Cancer Res Treat*, 2020. **52**(4): p. 1120-1134

Kim, K., Y. Han, S. Jeong, K. Doh, H.A. Park, K. Lee, M. Cho, and S. Ahn, *Prediction of Postoperative Length of Hospital Stay Based on Differences in Nursing Narratives in Elderly Patients with Epithelial Ovarian Cancer*. *Methods Inf Med*, 2019. **58**(6): p. 222-228

Park, E., S. Ahn, H. Kim, S.Y. Park, J. Lim, H.J. Kwon, Y.B. Han, C.T. Lee, S. Cho, and J.H. Chung, *Targeted Sequencing Analysis of Pulmonary Adenocarcinoma with Multiple Synchronous Ground-Glass/Lepidic Nodules*. J Thorac Oncol, 2018. **13**(11): p. 1776-1783.

Park, S.J., S. Ahn, and K.H. Park, *Burden of Visual Impairment and Chronic Diseases*. JAMA Ophthalmol, 2016. **134**(7): p. 778-84.

Ahn, S. and L. group, *LOCAT (low-dose computed tomography for appendicitis trial) comparing clinical outcomes following low- vs standard-dose computed tomography as the first-line imaging test in adolescents and young adults with suspected acute appendicitis: study protocol for a randomized controlled trial*. Trials, 2014. **15**: p. 28.

Ahn, S., S.H. Park, and K.H. Lee, *How to demonstrate similarity by using noninferiority and equivalence statistical testing in radiology research*. Radiology, 2013. **267**(2): p. 328-38

Kim, K., Y.H. Kim, S.Y. Kim, S. Kim, Y.J. Lee, K.P. Kim, H.S. Lee, S. Ahn, T. Kim, S.S. Hwang, K.J. Song, S.B. Kang, D.W. Kim, S.H. Park, and K.H. Lee, *Low-dose abdominal CT for evaluating suspected appendicitis*. N Engl J Med, 2012. **366**(17): p. 1596-605.

Research Experience

With a strong background in statistics and a history of collaborations with clinicians and bioinformaticians, I have conducted interdisciplinary research in clinical research and bioinformatics. Much of my research has focused on developing statistical methods for design and analysis of large-scale clinical data and genomic data.

Analysis of high-throughput sequencing data: Multi-region sequencing data analysis is challenging due to its complexity and underlying biological processes. I conducted projects which analyses panel, whole exome sequencing, and RNA-seq data for study of early lung cancer development using series of clinical specimen. (Lim *et al.* 2021, Ahn *et al.* 2020, and Park *et al.* 2018)

Deep learning for electronic health record data: I applied deep learning methods to semi-structured electronic health record data. For example, nursing narratives datasets contain behaviors of patients and intervention from healthcare providers. I have been working on predicting hospital stay of patients given nursing narrative datasets along with other clinical features. (Kim *et al.* 2019, and Kim *et al.* 2016)

Data integration using synthetic data and statistical matching: I am currently working on data integration project with minimum loss in data privacy. The two topics – synthetic data and statistical matching – are seeming irrelevant at first. To prevent privacy leakage caused by direct record linkage, I am working on the statistical methods which enable to integrate datasets without loss of data utility.

Clinical research design methodology: Clinical research design requires understanding of diverse fields: observational study & clinical trial, various specimen & data type collection, and statistical methods & computational skill. I have learned to collaborate with clinicians, biologists, and data scientists, and can provide methodological aspects of clinical research design elements.