

AKM Fazlur Rahman, Ph.D.

Assistant Professor
Department of Biostatistics
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Education and Training

Postdoctoral Fellow August 2014-July 2016

Department of Biostatistics and Bioinformatics
Emory University Atlanta, GA, USA

Ph.D. in Statistics August 2014

University of South Carolina, Columbia SC, USA

Dissertation title: "Non- and semi-parametric Bayesian Inference with Recurrent Events and Coherent Systems Data."

Advisor: Professor Edsel Peña

M.A. in Mathematics and Statistics (Double Major) 2007 - 2009

Ball State University, Muncie, IN, USA

B.Sc. and M.Sc. in Mathematics 1999

Jahangirnagar University, Dhaka, Bangladesh

Professional Experiences

Department of Biostatistics, School of Public Health July 2016 to present

University of Alabama at Birmingham

Assistant Professor

Department of Biostatistics and Bioinformatics August 2014 - July 2016

Emory University, Atlanta, GA

Postdoctoral Fellow

Department of Statistics August 2009 - August 2014

University of South Carolina, Columbia, SC

Graduate Research Assistant

January - August, '12 '13 '14

Graduate Teaching Instructor

August - December, '11 '12

Graduate Teaching Instructor

May - December, 2010

Department of Mathematical Sciences August 2007 - May 2009

Ball State University, Muncie, IN

Research Interests

- Survival analysis, Statistical methods for biomedical applications.
- Non- and semi-parametric Bayesian Methods, Recurrent events analysis.
- Agreement study; Posttraumatic stress disorder (PTSD); Latent class analysis.
- Acute kidney injury (AKI) and chronic kidney disease (CKD)

Awards and Honors

- James Lynch Graduate Research Award 2014, Dept. of Statistics, University of South Carolina.
- Best Oral Presentation Award, SC-ASA 2013 Symposium.
- NSF, Graduate School, and Department of Statistics travel grant for IISA, Riverside, CA Conference, 2014.
- NSF travel Grant for poster presentation in 3rd Workshop on Biostatistics and Bioinformatics at Georgia State University, May 9-11, 2014.
- Travel grant, Dept. of Statistics and Graduate School, University of South Carolina for ENAR Spring meetings, Baltimore, MD. March, 2014.
- NSF travel grant for poster presentation in Tsiatis Symposium, Dept. of Statistics, NC State University, NC. July, 2013.
- NSF travel grant for poster presentation in SRCOS Summer meetings, Montgomery Bell State Park, Burns, TN. June, 2013.
- Travel grant, Dept. of Statistics, University of South Carolina for ENAR Spring meetings, Orlando, FL. March, 2013.
- NSF travel grant for poster presentation in SRCOS 2012, Jekyll Island, GA; FACM'12, NJIT, NJ, 2012.

Peer-Reviewed Publications

27. Delayed sternal closure after pediatric heart surgery: outcomes and prognostic factors. Asfari A, Hock K, Huskey J, **Rahman, AKM Fazlur**, Clark M, Mauchley D, Dabal R, Borasino S. Submitted to *World Journal for Pediatric and Congenital Heart Surgery*, 2021 (accepted).

26. Samantha Hill, Jarvis Johnson, LaTimberly Washington, **Rahman AKM Fazlur**, Tina Simpson, Latesha Elopre. Exploring Adults as Support Persons for Improved Preexposure Prophylaxis for HIV among Select Adolescents and Young Adults in the Deep South. *PLoS One*. 2021 Mar 19;16(3).
25. Puja Khanna, Dinesh Khanna, Gary Cutter, Jeff Foster, Joshua Melnick, Sara Jaafar, Stephanie Biggers², **Rahman, AKM Fazlur**, Hui-Chen Kuo, Michelle Feese, Alan Kivitz, Charles King, William Shergy, Jeff Kent, Paul Peloso, Maria Danila, Kenneth Saag. Reducing Immunogenicity of Pegloticase (RECIPE) with concomitant use of Mycophenolate mofetil in patients with refractory gout—a Phase II double blind randomized controlled trial. *Journal of Arthritis and Rheumatology*, 2021 (accepted).
24. Anis Rabbani Nourani, **AKM Fazlur Rahman**, Jeffrey Lebensburger, Brandi Pernell, Mary H Maddox, Ammar Saadoon Alishlash. Nocturnal Hypoxemia Measured by Polysomnogram is Associated with Acute Chest Syndrome in Pediatric Sickle Cell Disease. *Journal of Clinical Sleep Medicine*; 2021 Feb 1;17(2):219-226.
23. Ashley Alexander, Rachel Honan, Adolfo Molina, **Rahman, AKM Fazlur**, Susan C. Walley. Tobacco Screening and Use in Hospitalized Adolescents at a Children’s Hospital. *Hospital Pediatrics*, 2020 (in press)
22. Jessica Schmitt, Paul Thornton, Avni N Shah, **Rahman, AKM Fazlur**, Elizabeth Kubota, Patrick Rizzuto, Anshu Gupta, Sena Orsdemir, and Paul B Kaplowitz. The relationship between peak growth hormone levels and brain MRI findings in children diagnosed with growth hormone deficiency. *The Journal of Clinical Endocrinology and Metabolism*, 2020 (in press).
21. **Rahman, AKM Fazlur** and Peña, A. Edsel. Nonparametric Bayes Inference of Reliability of a Coherent System. *Journal of Statistical Research*, 2020 (in press).
20. Soliman, E. Z., **Rahman, AKM Fazlur**, Zhang, Z. M., Rodriguez, C. J., Chang, T. I., Bates, J. T., Ambrosius, W. T. and Lewis C. E. (2020). Effect of intensive blood pressure lowering on the risk of atrial fibrillation. *Hypertension*, 75(6), 1491-1496.
19. Schmitt, Jessica, **Rahman, AKM Fazlur**, Ashraf, A. Concurrent diabetic ketoacidosis with hyperosmolality and/or severe hyperglycemia in youth with type 2 diabetes. *Endocrinology, diabetes metabolism*, 3(3), July 2020.
18. Ann Elizabeth Montgomery, **Rahman AKM Fazlur** Meagan Cusack, Allyson Varley, Thomas Byrne. Correlates of Transitions into Housing Instability Among Veterans Accessing VHA Health Care. *Medical Care*, July 2020.
17. Montgomery A. E., **Rahman, AKM Fazlur**, Chhabra M., Cusack M. E., and True, Jennifer G. The Importance of Context: Linking Veteran Outpatients Screening Positive for Housing Instability with Responsive Interventions. *Journal of Health Care for the Poor and Underserved*, March 2020.
16. Gist, K. M., Henry, B. M., Borasino, S., **Rahman, AKM Fazlur**, Webb, T., Hock, K. M., Kim, J. S., Smood, B., Mosher, Z., and Alten, J. A. (2020). Prophylactic Peritoneal Dialysis

- after the Arterial Switch Operation: A retrospective cohort study. *The Annals of thoracic surgery*, May 2020.
15. Walker Harrison C, Faulka1 Jesse, **Rahman, AKM Fazlur**, Gonzalez, Christopher, Rousha William, Nakhmani, Arie, Crowell, Jason, and Guthrie Barton L. Awake testing during deep brain stimulation surgery predicts postoperative stimulation side effect thresholds. *Brain Science*; 9(2):01 Feb, 2019.
 14. Brandon Michael Henry, Santiago Borasino, Laura Ortmann, Mayte Figueroa, **Rahman, AKM Fazlur**, Krissie M. Hock, Mario Briceno-Medina7, Jeffrey A. Alten. Perioperative Serum Albumin and its influence on Clinical Outcomes in Neonates and Infants undergoing Cardiac Surgery with Cardiopulmonary Bypass: a multi-center retrospective study. *Cardiology in the Young*; 29(6):761-767, 01 Jun, 2019.
 13. Atchley T, Laskay N, Sherrod BA, **Rahman, AKM Fazlur**, Walker HC, Guthrie BL. Reoperation for Device Infection and Erosion Following Deep Brain Stimulator Implantable Pulse Generator Placement. *Journal of Neurosurgery*; 1-8, 07 Jun, 2019.
 12. Robert Richter, Jeffrey Alten, Robert King, Asaf Gans, Yuvraj Kalra, **Rahman, AKM Fazlur**, Santiago Borasino. Positive Airway Pressure Versus High Flow Nasal Cannula for Prevention of Extubation Failure in Infants After Congenital Heart Surgery. *Pediatric Critical Care Medicine*; 20(2):149-157, 01 Feb 2019.
 11. Elizabeth J. Richardson, Emily C. McKinley, **AKM Fazlur Rahman**, Phillip Klebine, David T. Redden, and J. Scott Richards, PhD. Effects of Virtual Walking On Spinal Cord Injury-Related Neuropathic Pain: A Randomized, Controlled Trial. *Rehabilitation Psychology*; 64(1):13-24, 01 Feb, 2019 .
 10. **Rahman, AKM Fazlur**, Manatunga Amita, Guo Ying, Peng Limin, and Jovanovic Tanja. A Latent Class Analysis of PTSD Symptoms Among Inner City Primary Care Patients. *Journal of Psychiatric Research*; 2018, Volume 98, 1-8.
 9. Jeffrey Alten, MD, **Rahman, AKM Fazlur, PhD**, Hayden J Zaccagni, MD, Andrew Shin, MD, David S Cooper, MD, MPH, Joshua J Blinder, MD, Lauren Retzloff, MPH, Inmaculada B Aban, PhD, Eric M Graham, MD, Jeffrey Zampi, MD, Yuliya Domnina, MD, Michael G Gaies, MD. The Epidemiology of Health-Care Associated Infections in Pediatric Cardiac Intensive Care Units. *The Pediatric Infectious Disease Journal*, 2018 August, 37(8):768-772.
 8. Santiago Borasino, MD, MPh, Kevin M Wall, MPh, Jack H Crawford, MD, PhD, Kristal M Hock, MSN, RN, CNL, David C Cleveland, MD, MBA, **Rahman, AKM Fazlur, PhD**, Kimberly D Martin, PhD, Jeffrey A Alten, MD. Furosemide response predicts acute kidney injury after cardiac surgery in infants and neonates, 2018. *Pediatric Critical Care Medicine*. 2018, Volume 19, No 4, 310-317.
 7. Moka Yoo-Jeong, Jade McBroom, **Rahman, AKM Fazlur**, Maya Baumann, Ashley Anderson, Drenna Waldrop-Valverde. Associations of Mood on Objective and Subjective Cognitive Complaints in Chronic Illness. *Journal of HIV and AIDS*. 2018, 4 (1).

6. **Rahman, AKM Fazlur**, Peng Limin, Manatunga Amita, and Guo Ying . Nonparametric Regression Method for Broad Sense Agreement. *Journal of Nonparametric Statistics*; **2017**, Volume 29, issue 2, 280-300.
5. Andrew T Taylor, Russell D. Folks, **Rahman, AKM Fazlur**, Aruna Polsani, MD, Eva V. Dubovsky, MD, PhD, Raghuveer Halkar, MD, Amita Manatunga, PhD (2017). ^{99m}Tc-MAG3: Image Wisely. *Radiology*; **2017**, Volume 283, No2.
4. Peng Limin, Manatunga Amita, Wang Ming, Guo Ying, and **Rahman, AKM Fazlur**. A General Approach to Categorizing a Continuous Scale According to an Ordinal Outcome. *Journal of Statistical Planning and Inference*, May 2016, Volume 172, 23-35.
3. **Rahman, AKM Fazlur**, Lynch James and Peña Edsel. Nonparametric Bayes Estimation of Gap-Time Distribution with Recurrent Event Data. *Journal of Nonparametric Statistics*; 2014, Volume 26, issue 3, 575-598.
2. Hossian M., **Rahman, AKM Fazlur**, Islam, M. On the study of the distribution of a - vectors of holomorphic curves closed to the system of rays. *Journal of Mathematics and Mathematical Science*, Volume 19, 2004.
1. Majumdar, A.A.K.M., Islam, A.S.M., and **Rahman, AKM Fazlur**. Algorithm for Generalized Assignment problem with employer and employees satisfaction. *Journal of Mathematics and Mathematical Science*, Volume 19, 2004.

Manuscripts Under Review

6. Hooman Kamel; **Rahman, AKM Fazlur** ; Wesley T. O'Neal, Cora E. Lewis; Elsayed Z. Soliman. Effect of Intensive Blood Pressure Lowering on Left Atrial Remodeling in the SPRINT Trial.
5. Jeremy M Loberger, Ryan M Jones, Adeline S Phillips , Jeremy Ruhlmann, **Rahman, AKM Fazlur**, 6) Priya Prabhakaran. Endotracheal secretions: Do they belong in the pediatric extubation readiness bundle?" 2021+.
4. Taylor Andrew, **Rahman, AKM Fazlur**, Russell D. Folks, Nicholas Plaxton, Valeria Moncayo, ArunaPolsani, BitavSavir Baruch, Raghuveer K Halkar, Eva Dubovsky, Ernest V. Garcia, Amita Manatunga . Software for Interpretation of 99mTc-MAG3 Diuretic Scintigraphy: Diagnostic Accuracy and Implications for Resident Training.
3. Katja M Gist DO, MSCS; Jeffrey A. Alten MD; Megan SooHoo MD; Emily Mack MS; Kristal M Hock RN MSN CNL BS; **Rahman, AKM Fazlur**; Santiago Borasino. Center variation in acute kidney injury and associated outcomes in neonates following the Norwood procedure.
2. Muhammad Arslan, Cassi Smola, **Rahman, AKM Fazlur**, John H. Grant James M. Johnston, Management of Epidural and Subgaleal Abscesses in Pediatric Craniofacial Surgery.
1. Erinn O. Schmit, Adolfo Molina, Candice Dye, Christine Stoops, **Rahman, AKM Fazlur**, and Nancy Tofil. Infant Safe Sleep Knowledge, Attitudes, and Behaviors by Physicians at an Academic Children's Hospital.

Current Grant/Research Support

- UO1HL133232, NHLBI, Duncan (PI), 09/01/2017 - 7/31/2022
Study of Therapeutic Plasma Exchange, Rituximab, and Intravenous Immunoglobulin for Acute Exacerbations of Idiopathic Pulmonary Fibrosis (STRIVE-IPF)
Role: PI of the Data Coordinating Center and Lead Statistician
- 1R21AR071684-01A1, NIAMS, Saag(PI), 04/01/2018 - 06/30/2021
REduCing Immunogenicity to PegloticasE (RECIPE)
Role: PI of the Data Coordinating Center and Statistician
- P30DK079337 NIDDK/NIH/NHLBI, Orlando (PI) 10/17/ 2019 - 10/16/2021
Title: UAB-UCSD O'Brien Center for Acute Kidney Injury Research - Enhancing the capacity to examine the impact of acute kidney injury on disparities in chronic kidney disease outcomes in the Southeastern US
Role: Co-Investigator
- CARRA-Arthritis Foundation Small Grant, Smitherman, Emily (PI), 10/01/ 2019 - 9/30/2021
Title: Evaluating Disease Activity Outcomes in Childhood-Onset Systemic Lupus Erythematosus
Role: Co-investigator
- Lupus Foundation of America Career Development Award, Smitherman, Emily (PI), 07/01/2019 - 06/30/2021
Title: Evaluating Care and Outcomes in Childhood-Onset Systemic Lupus Erythematosus
Role: Co-investigator
- CARRA-Arthritis Foundation Transdisciplinary Grant, Chang, Joyce (PI), 12/01/2019 - 11/30/2021
Title: Measuring Post-Transfer Outcomes and Building a Framework to Implement Structured Transition Processes across Rheumatic Diseases
Role: Co-investigator
- Cardiovascular Intensive Care Unit (CVICU) Research Project, Borasino, Santiago (PI)
Role: Co-investigator: 2017/02/01 - present
- Pediatric Research Office (PRO), Department of Pediatrics, UAB School of Medicine
Role: Statistician: 2019/05/01 - present

Past Grant/Research Support

- HHSN268200900047C, NIH/NHLBI (Lewis), 03/15/2019 - 03/31/2020
The Systolic Blood Pressure Intervention Trial (SPRINT) is a 2-arm, multicenter, randomized clinical trial designed to test whether a treatment program aimed at reducing systolic blood pressure (SBP) to a lower goal than currently recommended will reduce cardiovascular disease (CVD) risk.
Role: Co-Investigator

- Michael J Fox Foundation, Walker Harrison (PI), 12/14/2017-01/31/2020
Title: Unlocking dystonia from Parkinson's disease with directional DBS technology
Role: Co-investigator
- R37 AR067427, Bradley (PI), 2017/01/01-2019/04/30
Title: Ethnic Differences in Responses to Painful Stimuli (UPLOAD)
Role: Statistician
- IIR 13-334, Montgomery, Ann Elizabeth (PI)
Title: Identifying and Measuring Risk for Homelessness Among Veterans, U.S. Department of Veterans Affairs, Health Services Research & Development
Role: Co-investigator: 2017/05/10 - 2019/06/30
- P60AR064172, NIH/NIAMS, Redden, David (PI), 2016/07/15-2019/07/31
Title: Multidisciplinary Clinical Research Center (MCRC) - Methods Core
Role: Co-investigator

Teaching Experience

- **Department of Biostatistics, University of Alabama at Birmingham**
 - **BST 665: Survival Analysis**
Spring 2021, 13 students
Spring 2020, 12 students
 - **BST 631: Statistical Theory I**
Fall 2017 - 2019, 7 students
 - **BST 698** section 00H, Non Thesis Research: Spring 2021, 1 student
 - **BST 698** section 00B, Non Thesis Research: Spring 2020, 1 student
 - **BST 698** section 00B, Non Thesis Research: Fall 2019, 1 student
 - **BST 698** section 00E, Non Thesis Research: Fall 2018, 2 students
 - **Supervising Graduate Research Assistant (GRA):** Rouba Chahine, Biostatistics PhD Student, 07/01/2019 - present. (GRA-ship will provide full funding for two years)
- **Department of Statistics, University of South Carolina, Columbia, SC**
 - **STAT 509: Statistics for Engineers**
Fall 2013, 50 students
 - **STAT 201: Elementary Statistics**
Fall 2012, 48 students
Fall 2011, 48 students
Spring 2011, 48 students
Fall 2010, 24 students

- **STAT 201: Elementary Statistics Lab**
 - Fall 2012, 24 students
 - Fall 2011, 24 students
 - Spring 2011, 24 students
 - Fall 2010, 24 students
- **STAT 110: Introduction to Statistical Reasoning**
 - Summer 2010, 36 students
- **Department of Mathematics, Jahangirnagar University, Dhaka, Bangladesh**
 - **Math 302: Mathematical Programming and Game Theory**
 - January 2007 - August 2007, 40 students
 - **Math 203: Real Analysis I**
 - January - November 2006, 40 students
 - **Math 101: Calculus I**
 - January - November 2005, 20 students

Academic Advising/Mentoring

- Peter Abraham (MSPH, Fall 2020 – present)
- John D. Cleveland (MS, Fall 2017 – present)
- John R. Bassler (MS, Fall 2017- present)
- Jeremiah Rastegar (MS, Fall 2019 – Spring 2020)

Serving Dissertation Committees

- Boyi Guo (Ph.D. in Biostatistics, Expected 2022)
- Rouba A Chahine (Ph.D. in Biostatistics, Expected 2021)
- Sourav Bhattacharya (Ph.D. in Mathematics, Expected 2021)

Department Service (UAB)

- Chair, Graduate (MSPH/MS/PhD/DrPH) Admissions Committee, 2020 - present
- Member, Graduate Programs Committee, 2020 - present
- Member, Graduate (MSPH/MS/PhD) Admissions Committee, 2017 - 2020
- Member, Faculty Search Committee, 2021
- Member, Faculty (Associate Professor) Search Committee, 2019-2020
- Member, DrPH Curriculum Committee, 2017 - 2018
- Member, Faculty Search Committee, 2017

University and School of Public Health (SOPH) Service

- Alternate senator for SOPH - UAB Faculty Senate, 2020 - 2021, 2021-2023
- Member, Faculty Senate Curriculum Committee, 2020 -2021
- Member, President's Award for Excellence in Teaching Committee, SOPH, 2021
- Member, SOPH Admissions and Graduation Committee, 2021 - Present
- Judge, Fall 2020 Expo (Undergraduate Research)

Service to Professional Community: Periodic Journal Reviewers

- Biometrics
- Statistics in Medicine
- Communication in Statistics - Theory and Methods
- Journal of Statistical Theory and Practice
- The Annals of Applied Statistics
- Journal of the Korean Statistical Society
- The American Journal of Clinical Nutrition
- Mayo Clinic Proceedings

Certification and Computing Skills

- Proficient in R, SAS, Matlab, Minitab, SPSS, and Mplus.
- SAS Base 9.1 Certified Programmer.
- SAS Advanced 9.1 Certified Programmer.
- “Data Science Specialization” administered by the Johns Hopkins Bloomberg School of Public Health and Coursera.
 - “Practical Machine Learning” Certification.

Invited Talk and Presentations

21. Nonparametric Bayes Inference of Reliability of a Coherent System. JSM, Denver, Colorado. July 27- August 01, 2019.
20. Nonparametric Regression Method for Broad Sense Agreement. The Second Conference on Lifetime Data Science. Pittsburgh, Pennsylvania, USA May 29 - 31, 2019. Invited talk.
19. Semiparametric Bayes Inference of Gap-time Distribution with Correlated Recurrent Event and Covariates. JSM, Baltimore, MD. July 29- August 03, 2017.
18. Nonparametric Regression Method for Broad Sense Agreement. JSM, Chicago, IL. July 30- August 04, 2016.

17. Nonparametric Regression Method for Broad Sense Agreement. Department of Mathematical Sciences, University of Montana. February 29, 2016. Invited oral presentation.
16. Nonparametric Regression Method for Broad Sense Agreement. Department of Mathematics, Eastern Michigan University. March 8, 2016. Invited oral presentation.
15. Nonparametric Regression Method for Broad Sense Agreement. Department of Mathematical Sciences, University of Houston-Downtown. March 23, 2016. Invited oral presentation.
14. Nonparametric Regression Method for Broad Sense Agreement. Department of Mathematical Sciences, University of Houston-Clear Lake. March 28, 2016. Invited oral presentation.
13. Nonparametric Regression Method for Broad Sense Agreement. Department of Mathematics and Statistics, Arkansas State University. March 30, 2016. Invited oral presentation.
12. Nonparametric Regression Method for Broad Sense Agreement. ENAR Spring meetings, Miami, FL. March 15-18, 2015. Oral presentation.
11. Nonparametric and semiparametric Bayesian inference with recurrent event data. Department of Biostatistics and Bioinformatics Seminar, Emory University, Atlanta GA. November 13, 2014. 50 minutes Oral Presentation.
10. Non- and semi-parametric Bayesian inference with recurrent event data. International Indian Statistical Association (IISA), Riverside CA, July 11-13, 2014. Invited talk.
9. Semiparametric Bayesian inference of gap-time distribution with recurrent event data. Third Workshop on Biostatistics and Bioinformatics. Georgia State University May 9-11, 2014. Poster presentation.
8. Semiparametric Bayesian inference with correlated gap-time distribution with recurrent event data. ENAR Spring meetings, Baltimore, MD. March, 2014. Oral presentation.
7. Nonparametric Bayes estimation of gap-time distribution with recurrent event data. Tsiatis Symposium, Department of Statistics, NC State University, July 12-13, 2013. Poster presentation.
6. Nonparametric Bayes inference of reliability of a coherent system. SRCOS Summer meetings, Montgomery Bell State Park, Burns, TN. June, 2013. Poster Presentation.
5. Nonparametric Bayes estimation of gap-time distribution with recurrent event data. SC-ASA Symposium, USC. March, 2013. Oral presentation.
4. Nonparametric Bayes estimation of gap-time distribution with recurrent event data. ENAR Spring meetings, Orlando, FL. March, 2013. Oral presentation.
3. Nonparametric Bayes inference with recurrent event data. 50 minutes presentation in the Research Seminar, Dept. of Statistics, USC, 2012. Oral Presentation.
2. Nonparametric Bayes estimation of gap-time distribution with recurrent event data. SRCOS Summer meetings, Jekyll Island, Georgia, June, 2012. Poster presentation.
1. Nonparametric Bayes estimation of gap-time distribution with recurrent event data. FACM'12 at NJIT, NJ. May, 2012. Poster presentation.

Professional Memberships

- American Statistical Association (ASA), 2013 - Present.
- International Biometric Society (ENAR), 2012 - Present.