MCRC P60 Methodology Core

Mission

Develop and provide state of the art methodology and methodological education in the collaborative support of clinical and translational research in arthritis and musculoskeletal disease (MSD) at the local, regional, national, and international level.

Specific Aims

Aim 1: Support the design, data collection, management, ad analytic efforts of the MCRC projects.

Aim 2: Original research in methodology that are applicable to clinical and translational research in arthritis and MSD.

Aim 3: Develop new investigators in the area of arthritis and MSD research.

Aim 4: Provide methodology seminars, workshops, and mini-courses to introduce the newest methodological approaches to the MCRC research base.

Educational Activities

1. New investigator development. New investigators can present their grant ideas to the methodology core members and other relevant people to help their grant development. Many investigators have benefited from this process.

2. Workshops and mini courses. Each year, MCRC methodology core organizes multiple educational workshops or mini courses focused on different analytical areas. No prior knowledge is required to attend these events.

Contacts:

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3. Contact center coordinator, Dr. Stella Aslibekyan
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People and Expertise

1. Xiang Qin Cui, PhD. Associate Professor in The Department of Biostatistics. Dr. Cui’s expertise is in experimental design and data analysis for projects involving high-throughput technologies, such as microarrays, RT-PCR array, next-generation sequencing, proteomics, and epigenomics. She has conducted large number of methodology and application studies with small sample sizes but huge number of measurements. She has been involved in many collaboration projects in kidney disease, hear disease, cancer, RA, and muscle/neral research.
   Office: RPHB 327M Phone: (205) 996-4154 Email: xcui@uab.edu

2. David Redden, PhD. Professor in the Department of Biostatistics. Dr. Redden’s expertise is the design and analysis of cluster randomized trials. He also has 19 years of experience of collaborative experience in designing and analysing clinical studies. He has been involved in the development and analysis of projects/grants in AIDS, Diabetes, Obesity, Nutrition, Tuberculosis, Asthma, Early Childhood Education, Nutrition, Rheumatology, and Gerontology. His methodological research focuses on power calculation, appropriate analysis of group randomized trials with small numbers of clusters, and regression methodology.
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3. Meredith Kilgore, PhD. Professor in the Department of Health Care Organization and Policy. Dr. Kilgore is an expert in cost-effectiveness and technology assessment studies involving clinical information systems, clinical laboratory testing methods, and post-operative autologous blood transfusion following cardiac surgery, home health and hospice services in older cancer patients. His more recent work includes studies cancer treatment costs and cancer clinical trial design.
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4. AKM Fazlur Rahman, PhD. Assistant Professor in the Department of Biostatistics. Dr. Rahman’s methodological research includes survival analysis, recurrent event analysis, non- and semi-parametric Bayesian inference, nonparametric inference in agreement measure. He has also conducted collaboration studies in a verity of disciplines including posttraumatic stress disorder (PTSD), radiology and imaging science. He has extensive experience analyzing kidney obstruction data which deals with agreement measure among expert physicians, among resident physicians, and effectiveness of a renal expert system (RENEX) to train resident physicians for better diagnostic accuracy.
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5. Elliot Lefkowitz, PhD. Professor in Department of Microbiology. Dr. Lefkowitz brings the expertise and resources of CCTS Informatics. Their five Bioinformaticians are available to assist investigators in the analysis of a wide range of data types including whole genome, exome, transcriptome, microbiome, and metagenomic sequences. They help to ensure that each individual and laboratory can maximize their ability to publish and obtain funding. In support of MCRC Projects, they have developed a microbiome analysis pipeline that provides rapid analysis of microbial ribosomal sequence data, producing a report that contrasts the microorganism composition profiles between different sets of samples.
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6. Nengjun Yi, PhD. Sir David Cox Endowed Professor in The Department of Biostatistics, University of Alabama at Birmingham. His research is in the areas of genetic association studies in human populations, QTL mapping for complex traits, statistical analysis of genetic interactions (gene-gene and gene-environment interactions), predictive and prognostic modeling of complex diseases and outcomes, and microbiome data analysis. He has been involved in many collaborative projects.
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7. Stella Aslibekyan, PhD. Assistant Professor in Department of Epidemiology. Dr. Aslibekyan is an epidemiologist with additional training in statistical genetics and epigenetics. Broadly, her expertise lies in gene-environment interactions, with the environment designed as a broad range of external factors such as diet, lifestyle, and the use of lipid-lowering or anti-inflammatory medications. She also has extensive experience with epidemiologic study design as well as with analyzing cutting-edge genomic and epigenomic data.
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