

# CCTS Biostatistics, Epidemiology & Research Design (BERD)

Robert Oster PhD, David Redden PhD, and Gerald McGwin, PhD Co-Directors

University of Alabama at Birmingham



# CCTS

## MISSION

The CCTS **BERD** provides consultation, guidance, and expertise for study design, data management, and statistical analysis of research at UAB and throughout the UAB CCTS Partner Network. The purpose of this Core is to gather methodological expertise as a single coordinated resource and match individual methodological skills and interests with study-specific research needs.

## SPECIFIC AIMS

1. To provide methodological collaboration in the design of a wide-array of study types (Pilot, Observational, Randomized) and funding mechanisms (Career Development (K), R series, Program Projects).
2. To provide methodological consultation on the design of databases, database quality control, and the statistical analysis of collected data
3. To provide continuing education in methodology approaches to the CCTS research base through methodology seminars, workshops, mini-courses, and on-line courses/material.

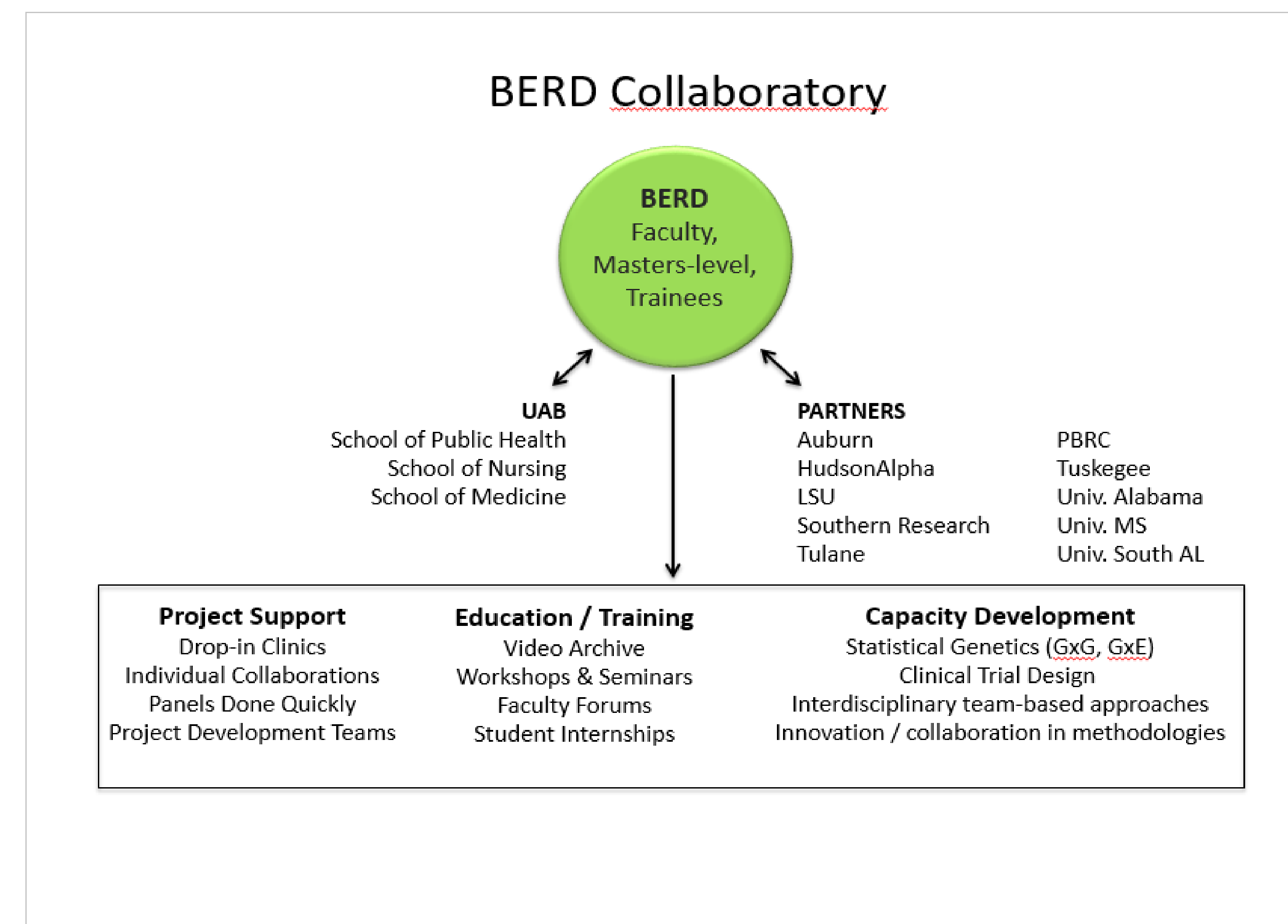
## DROP-IN CLINICS OFFERING BIostatistics EXPERTISE FOR ANYONE

- ✓ Study Design
- ✓ Sample Size and Power Calculations
- ✓ Data Analysis
- ✓ Data Management
- ✓ Display of Data and Results
- ✓ Interpretation of Results
- ✓ Statistical Software

**Mondays 10am to 2pm**  
in The Edge of Chaos

**Wednesdays 11:30am-1pm**  
PCAMS Building, 1924 7<sup>th</sup> Ave South

Other times available by appointment  
(ccts@uab.edu)



**Robert Oster, PhD** Professor of Medicine. Dr. Oster has more than 20 years of experience in the design and analysis of clinical trials and medical and public health studies. He has been involved in the development and analysis of projects/grants in nutrition, diabetes, obesity, cancer, pediatric and adult pulmonology, nephrology and renal disease, and pathology. His statistical research interests include categorical data analysis, longitudinal data analysis, modern statistical computing methods, and clinical trials methodology.

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**Peng Li, PhD** Assistant Professor, Nursing. Dr. Li's research interests focus on the design and analysis of cluster randomized trials and large cohort studies. Dr. Li has broad collaborative research experience in study design and analysis, power/sample size calculations, data management, adaptive statistical methodologies. His scientific research areas are hypertension, liver cancer, rheumatology/osteoporosis, obesity/nutrition and child safety.

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**David Redden, PhD** Professor, School of Public Health. Dr. Redden has 22 years of collaborative experience in designing and analyzing clinical studies. He has been involved in the development and analysis of projects/grants in diabetes, obesity, tuberculosis, asthma, nutrition, rheumatology, and gerontology. His methodology research focuses on power calculations, analysis of group randomized small cluster trials, and regression methodology.

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**Kimberly Martin, PhD** Assistant Professor, Department of Epidemiology. Dr. Martin's expertise is cardiovascular and stroke epidemiology. She is involved in the development and analysis of projects in obstetrics/gynecology, urology, pediatrics, internal medicine, cardiovascular disease, and neurology. Her research focuses on individual, provider and community-level factors affecting health care quality for chronic disease management among minority populations.

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**Paul A. MacLennan, PhD** Associate Professor of Surgery and Associate Director of Transplant Analytics, Informatics & Quality. He has 18 years of collaborative experience that includes health disparities, healthcare utilization, injury and trauma, geriatrics, and cancer incidence. He has utilized local and national sources of primary and secondary data for cross-sectional, retrospective, prospective, and longitudinal study designs and data analyses. He has expertise in data management and data linkages and methods for addressing missing data.

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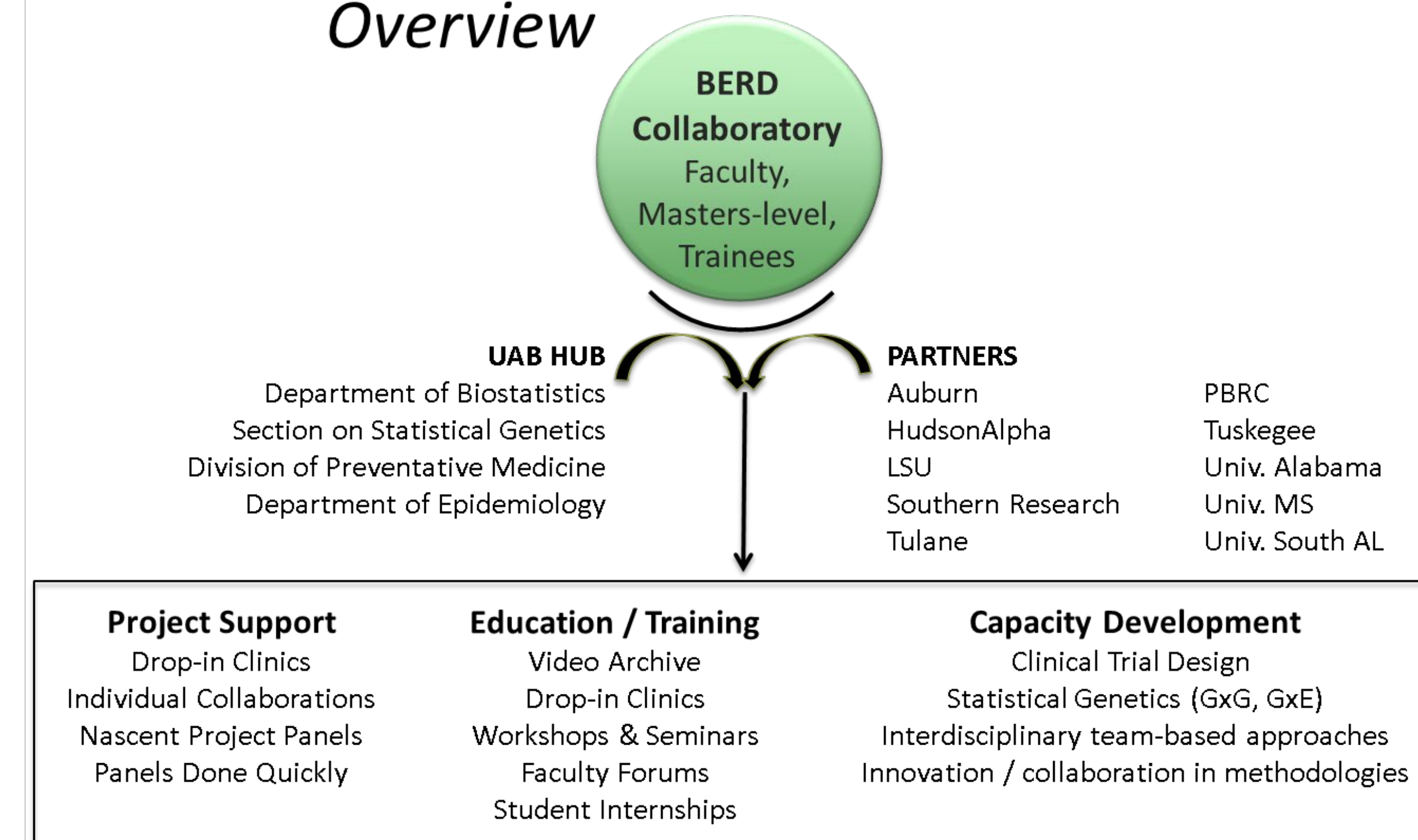
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### BERD Collaboratory

#### Overview



## TEAM

**Gerald McGwin, PhD.** Professor and Vice Chair of Epidemiology. Dr. McGwin's expertise is the design and analysis of epidemiologic studies as well as the design, implementation and evaluation of clinical data registries. His areas of interest are eye disease, vision impairment, injury, and aging related chronic diseases.

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**Robert Oster, PhD.** Professor of Medicine. Dr. Oster's expertise is the design and analysis of clinical trials and medical and public health studies. He has more than 20 years of collaborative experience in designing and analyzing medical and public health studies. He has been involved in the development and analysis of projects and grants in nutrition, diabetes, obesity, cancer,

pediatric and adult pulmonology (cystic fibrosis, COPD), nephrology and renal disease, and pathology. His statistical research interests include categorical data analysis, longitudinal data analysis, modern statistical computing methods, and clinical trials methodology.

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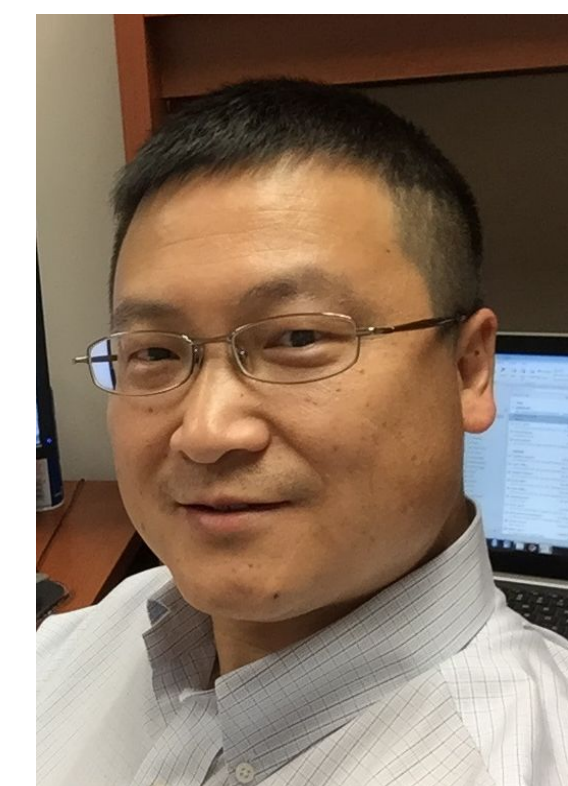


**Peng Li, PhD.** Scientist I, Department of Biostatistics. His research interests focus on the study design and analysis of randomized clinical trials, particularly cluster randomized trials as well as large cohort studies. Dr. Li has broad collaborative research experience by providing statistical expertise on study design, power and sample size calculation, data management and analysis, adapted statistical methodologies, statistical input for grant proposals and manuscripts, etc. His major scientific areas of research include hypertension, liver cancer, rheumatology/osteoporosis, obesity/nutrition and child safety.

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**David Redden, PhD.** Professor and Chair, 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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**Meredith Kilgore, PhD.** Professor and Chair, 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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