Aging, Injury, Musculoskeletal, and Rheumatologic Disorders (AIMR)

The Aging, Injury, Musculoskeletal, and Rheumatologic Disorders (AIMR) study section reviews applications that characterize determinants, predictors and biomarkers of the aging process, aging-related disorders, dermatological, musculoskeletal, rheumatologic, and injury phenotypes, conditions and diseases from a population health perspective. Applications reviewed will examine a range of exposures and risk factors for these disorders and processes including but not limited to genetic, epigenetic, biological, biomedical and environmental risk factors. Studies reviewed in AIMR have a population health focus, including consideration of health equity within and across populations. Applications that focus on the pathophysiology or the underlying mechanisms of these conditions especially those that primarily use animal or other experimental models are reviewed in other study sections.

Topics

- Studies tracing the trajectories of biological and biomedical factors associated with aging processes, and age-related conditions, including cognitive aging and dementias in large populations
- Lifecourse studies examining how the biological determinants of aging and age-related conditions at the population level can be found in exposures and conditions from earlier in life
- Studies addressing the incidence, prevalence, progression and consequences of musculoskeletal conditions in large populations including bone development, fractures, joints, osteoarthritis and bone loss
- Studies addressing the incidence, prevalence, progression and consequences of rheumatologic conditions in large populations including rheumatoid arthritis and systemic lupus erythematosus
- Studies addressing the incidence, prevalence, progression and consequences of dermatological conditions in large populations including atopic dermatitis
- Studies addressing the incidence, prevalence, progression and consequences of injury outcomes in large populations from a biological perspective including fall injuries in older adults
- Studies examining the effects of environmental and other exposures on incidence, progression, and outcomes related to aging, dermatological, musculoskeletal, rheumatologic, and injury related conditions in large populations, especially with a focus on the health outcome rather than the exposure
- Studies of incidence, prevalence and determinants of co-morbidities and multi-morbidities in aging populations as well as populations with dermatological, musculoskeletal, rheumatologic, and injury phenotypes
- Applications may use methodologies and study designs including cohort, case-control, prospective, longitudinal, retrospective, clinical trial, cross-sectional, surveillance, genetics, epigenetics, omics (i.e. genomics, transcriptomics, proteomics, metabolomics, epigenomics, metagenomics) and assessment of gene-environment interactions

Shared Interests and Overlaps

There are shared interests in age-related conditions such as Alzheimer's disease with Neurological, Mental and Behavioral Health (NMBH). Applications that emphasize the process of aging and how aging

affects the development, progression and consequences of neurological disorders and conditions are reviewed in AIMR. Applications that primarily focus on characterizing the determinants of neurological diseases and disorders are reviewed in NMBH.

There are shared interests in age-related conditions with Aging Systems and Geriatrics Study Section (ASG). Applications that emphasize the determinants and consequences associated with aging and age-related conditions in human subpopulations are reviewed in AIMR. Applications that emphasize physiological, pathophysiological and/or mechanistic aspects of age-related conditions in humans are reviewed in ASG.

There are shared interests in cognitive aging with biobehavioral study sections. Applications that emphasize the process of aging in human subpopulations with an epidemiological study approach is reviewed in AIMR. Applications that take a mechanistic approach to cognitive aging, especially laboratory-based human studies, are reviewed in Human Complex Mental Function Study Section (HCMF) and Adult Psychopathology and Disorders of Aging Study Section (APDA).

There are shared interests in skeletal conditions with Skeletal Biology Development and Disease Study Section (SBDD). Applications that emphasize the distribution and determinants of skeletal development and bone diseases in human subpopulations are reviewed in AIMR. Applications that emphasize basic and translational aspects of normal and abnormal skeletal development and bone diseases and investigate the pathological and normal physiology of these conditions are reviewed in SBDD.

There are shared interests in systemic rheumatic disease and conditions with Arthritis, Connective Tissue and Skin (ACTS). Applications that emphasize the distribution and determinants of these conditions in human subpopulations are reviewed in AIMR. Applications that emphasize the biology and physiology of these conditions are reviewed in ACTS.

There are shared interests in studying the genetic predisposition to disease using population-based samples with Genetics of Health and Disease (GHD). Applications that emphasize how these factors contribute to health outcomes in human subpopulations are reviewed in AIMR. Applications that emphasize discovery of genetic, genomic, epigenomic elements and molecular signatures are reviewed in GHD.

Analytics and Statistics for Population Research Panel A (ASPA)

Analytics and Statistics for Population Research Panel A (ASPA study section reviews applications that seek to develop, improve or innovate data extraction or preparation, analytic approaches, or research designs to advance studies of human population health that emphasize biological or biomedical data. Applications that address software development are reviewed in other study sections.

Topics
- Development and validation of statistical methods, and computational algorithms for the analysis of high-dimensional biological or biomedical data from human population health studies
- Development and validation of statistical methods and computational algorithms or other big data approaches to extract, summarize, analyze or model genetic, genomic, metagenomic, other omic, medical imaging and other diagnostic modality, biomarker and other biological or biomedical data in human population health studies
- Development and validation of machine learning and artificial intelligence procedures for the analysis of high-dimensional biological or biomedical data to advance human population health studies
- Development and validation of statistical genetic and genomic methods for assessment of biological genetic risk and protective factors of diseases in human populations
- Development and validation of statistical methods for metagenomic data to assess the role of the human microbiome in health outcomes measured in human population health studies
- Development and validation of statistical methods for scalable analysis of medical imaging and other biological diagnostic modality data from human population health studies
- Development and validation of statistical methods for design and analysis of clinical trials using population health data
- Development and validation of statistical methods for meta-analysis for use in population health studies
- Adaptation, novel assembly and novel application of existing statistical and computational methodology for biological and biomedical data analysis in population health studies

Shared Interests and Overlaps

There are shared interests in the development and application of statistical and computational methods to human population health research with [Analytics and Statistics for Population Research Panel B (ASPB)](). Applications focused on biological or biomarker data, particularly those that characterize complex biological/biomedical processes are reviewed in ASPA. Applications focused on observational, environmental, infectious disease, or social/behavioral data and modeling approaches for application to human population health are reviewed in ASPB.

There are shared interests in clinical data analysis using biological or biomedical data from human populations with the [Clinical Data Management and Analysis (CDMA)]() and [Clinical Informatics and Digital Health (CIDH)]() study sections. Applications that emphasize the development of this statistical methodology to support epidemiological studies and public health decision making using clinical biological or biomedical data are reviewed in ASPA. Applications that emphasize the clinical data analysis and methodology development for eventual translation to clinical use are reviewed in CDMA. Applications that emphasize informatics and computing methodology development using clinical data for clinical decision support and healthcare delivery are reviewed in CIDH.

There are shared interests in statistical genetics and genomics with Biodata Management and Analysis (BDMA). Applications that emphasize the development of statistical genetic and genomic methods and the development of statistical methods for scalable analysis of medical imaging and other diagnostic modality data for use in population-based research are reviewed in ASPA. Applications that focus on computational methods for acquisition, management, querying, sharing and analysis of biological data, particularly software or computing hardware for the analysis of large genomic datasets, medical and cellular imaging are reviewed in BDMA.

There are shared interests in the analysis of omic/genetic data with Genomics, Computational Biology and Technology (GCAT). Applications that focus on the development of statistical methodology for analysis of human omic/genetic data from population-based studies are reviewed in ASPA. Applications that focus on development of new computational methodologies, algorithms and software as applied to –omic/genetic data are reviewed in GCAT.

Analytics and Statistics for Population Research Panel B (ASPB)

Analytics and Statistics for Population Research Panel A (ASPB) study section reviews applications that seek to develop, improve or innovate data integration, study designs, statistical and modeling approaches for human population studies of observational and spatial-temporal data such as clinical, behavioral, environmental, or social data to advance understanding of health-related outcomes. Applications that primarily focus on developing applied analytical methodology and validate their findings with disease, condition or exposure specific data are reviewed in ASPB. Applications that combine the development of applied analytical methodology with the application of the new methodology to drive the epidemiology, behavioral or social science field forward are reviewed in the study sections that cover those exposures, diseases or conditions. Applications that address software development are reviewed in other study sections.

Topics

- Development of causal inference methods for population studies including methods to address confounding, sources of bias, effect heterogeneity, causal mediation, and generalizability, and missing or truncated data
- Studies that develop and/or apply models or simulation approaches to advance the study of population health and well-being
- Studies that propose approaches and methods for population health surveillance.
- Studies developing and testing social network analysis methods and their integration for human population health research
- Development and application of infectious disease modeling methodology, and statistical methods for analyzing infectious disease transmission, outcomes, and intervention effectiveness in human populations
- Studies that advance statistical approaches or tools for the use of survey and observational data, clinical data, electronic health records, text- based social, qualitative, natural or built environmental, and administrative data from population based studies
- Development and adaptation of spatial, spatio-temporal and geospatial analysis methods for human population health studies including improved methodology to comprehensively measure the human exposome
- Development of novel analyses of existing large human population behavioral, social or environmental datasets as well as innovative application of existing statistical and computational methodologies into new areas of application
- Innovative approaches to study design, measurement, and analysis of lifestyle and behavioral factors, and their relationship to biological and biobehavioral health outcomes in human populations
- Adaptation, novel assembly and novel application of existing statistical and computational methodology for clinical, behavioral, infectious disease, environmental or social data analysis in population health studies

Shared Interests and Overlaps

There are shared interests in the development and application of statistical and computational methods to human population health research with Analytics and Statistics for Population Research Panel A (ASPA). Applications focused on observational, environmental, infectious disease, or social/behavioral

data and modeling approaches for application to human population health are reviewed in ASPB. Applications focused on biological or biomarker data, particularly those that characterize complex biological/biomedical processes are reviewed in ASPA.

There are shared interests in the geographic and temporal relationship between environmental exposures and human population level health outcomes with Social and Environmental Determinants of Health (SEDH). Applications that emphasize the development and enhancement of spatial, spatio-temporal, and geospatial methodology for environmental exposure modeling and assessment of related human population health outcomes are reviewed in ASPB. Applications that emphasize application of spatial methodology to assess the contribution of social and environmental exposures to population health outcomes are reviewed in SEDH.

There are shared interests in infectious disease transmission modeling with Population-based Research in Infectious Disease (PRID). Applications that emphasize the development of infectious disease dynamic modeling and geospatial analysis methodology to be applied in future human population health studies are reviewed in ASPB. Applications that emphasize the application of infectious disease modeling and geospatial analysis methodology to characterize infectious disease transmission in large human populations are reviewed in PRID.

There are shared interests in infectious disease transmission modeling with Etiology, Diagnostic, Intervention and Treatment of Infectious Diseases (EDIT). Applications that emphasize the development and validation of infectious disease modeling methodology focused on the transmission in human populations are reviewed in ASPB. Applications that emphasize microbial ecology and monitoring pathogens during the transmission of infectious diseases are reviewed in EDIT.

There are shared interests in the human exposome with Systemic Injury by Environmental Exposure (SIEE) study section. Applications that emphasize developing methodology to measure the human exposome will be reviewed in ASPB. Applications that emphasize exposure biology and the mechanisms underlying the effects of the human exposome are reviewed in SIEE.

There are shared interests in the measurement of lifestyle and health behaviors like diet, sleep and physical activity with Lifestyle and Health Behaviors (LHB). Applications that primarily develop and adapt methodology to better analyze lifestyle and health behaviors data including data from wearable device and smartphone apps are reviewed in ASPB. Applications that primarily apply this methodology to measure lifestyle and health behaviors and their relationship with population health outcomes including the assessment of the efficacy of technology-based assessments of health behaviors are reviewed in LHB.

There are shared interests in clinical data analysis using behavioral or social data from human populations with the Clinical Data Management and Analysis (CDMA) and Clinical Informatics and Digital Health (CIDH) study sections. Applications that emphasize the development of statistical methodology to support epidemiological studies and public health decision making using clinical behavioral or social data are reviewed in ASPB. Applications that emphasize clinical data analysis and methodology development for eventual translation to clinical use are reviewed in CDMA. Applications that emphasize informatics and computing methodology development using clinical data for clinical decision support and healthcare delivery are reviewed in CIDH.

Cancer and Hematologic Disorders (CHD)

The Cancer and Hematologic Disorders (CHD) study section reviews applications that seek to understand the etiology, determinants, distribution and outcomes of cancer and hematologic disorders, conditions and phenotypes from a population health perspective. Applications reviewed will examine a range of exposures and risk factors for cancer and hematological disorders including but not limited to genetic, epigenetic, biological, biomedical and environmental risk factors. Studies reviewed in CHD have a population health focus, including consideration of health equity within and across populations. Applications that focus on the pathophysiology or the underlying mechanisms of these diseases and disorders especially those that primarily use animal or other experimental models are reviewed in other study sections.

Proposed Topics:

- Studies addressing the incidence, prevalence, progression and consequences of hematologic disease and phenotypes in large populations, including but not limited to anemias, disorders of coagulation, lymphomas and leukemias
- Studies addressing the incidence, prevalence, progression and consequences of cancers in large populations including the focus on early detection, survivorship and recurrence
- Studies examining the effects of environmental and other exposures on incidence, progression, and outcomes related to cancer and hematologic disorders in large populations, especially with a focus on the disease or disorder outcome rather than the exposure
- Studies of incidence, prevalence and determinants of co-morbidities and multi-morbidities in populations with cancer and hematological disorders
- Applications may use methodologies and study designs including cohort, case-control, prospective, longitudinal, retrospective, clinical trial, cross-sectional, surveillance, genetics, epigenetics, omics (i.e. genomics, transcriptomics, proteomics, metabolomics, epigenomics, metagenomics) and assessment of gene-environment interactions

Shared Interests and Overlaps

There are shared interests in risk and protective factors to mark cancer incidence, progression and treatment outcomes with Molecular Cancer Diagnosis and Classification (MCDC). Applications that apply validated biomarkers to cancer studies in human subpopulations are reviewed in CHD. Applications that emphasize discovery and validation of biomarkers for cancer (pre-epidemiology studies) are reviewed in MCDC.

There are shared interests in genetic predisposition to cancer with Cancer Genetics Study Section (CG). Applications that emphasize genetic epidemiology of cancer in human subpopulations relating genetic and epigenetic risk factors and biomarkers with cancer incidence and disease progression are reviewed in CHD. Applications that emphasize cancer genetic and epigenetic studies in both animals and humans with the aim of identifying genes and gene regulation that modifies susceptibility to cancer and molecular pathways involved in cancer pathogenesis are reviewed in CG.

There are shared interests in social or environmental epidemiology applications that assess cancer outcomes with Social and Environmental Determinants of Health (SEDH). Applications that focus on cancer health outcomes incorporating environmental and/or social exposures as risk factors at the population level may be reviewed in CHD. Applications that focus on the environmental and/or social

determinants or exposures that contribute to cancer outcomes at the population level are reviewed in SEDH.

There are shared interests in characterizing the role of lifestyle and health behaviors in cancer health outcomes at the population level with Lifestyle and Health Behaviors (LHB). Applications that focus on lifestyle and health behaviors as part of a panel of risk factors of cancer population health outcomes from a more biological and biomedical perspective are reviewed in CHD. Applications that focus on the lifestyle and health behaviors associated with cancer outcomes at the population level from a more behavioral perspective are reviewed in LHB.

There are shared interests in hematologic disorders with Clinical Integrative Cardiovascular and Hematological Sciences (CCHS). Applications that emphasize epidemiologic studies of hematologic disorders and clinical trials aimed at answering population-based questions about hematologic disease development, progression and treatment outcomes are reviewed in CHD. Clinical studies of the pathology associated with hematological dysfunction typically with small sample sizes are reviewed in CCHS.

There are shared interests in assessing genetic predisposition to diseases in large population samples with Genetics of Health and Disease (GHD). Applications that emphasize how these factors contribute to health outcomes in human subpopulations are reviewed in CHD. Applications that emphasize discovery of genetic, genomic, epigenomic elements and molecular signatures are reviewed in GHD.

Cardiovascular and Respiratory Diseases (CRD)

The Cardiovascular and Respiratory Diseases (CRD) study section reviews applications that address the etiology, determinants, distribution and outcomes of cardiovascular and respiratory phenotypes, disorders and diseases from a population health perspective. Applications reviewed will examine a range of exposures and risk factors for cardiovascular and respiratory diseases and disorders including but not limited to genetic, epigenetic, biological, biomedical and environmental risk factors. Studies reviewed in CRD have a population health focus, including consideration of health equity within and across populations. Applications that focus on the pathophysiology or the underlying mechanisms of these diseases and disorders especially those that primarily use animal or other experimental models are reviewed in other study sections.

Topics

- Studies addressing the incidence, prevalence, progression and consequences of cardiovascular diseases and disorders in large populations that include but are not limited to heart failure, atherosclerosis, pulmonary vascular disease and myocardial infarction
- Studies addressing the incidence, prevalence, progression and consequences of respiratory diseases and disorders in large populations that include but are not limited to chronic obstructive pulmonary disease (COPD), asthma, and bronchopulmonary dysplasia
- Studies examining the effects of environmental and other exposures on incidence, progression, and outcomes related to cardiovascular and respiratory health in large populations, especially with a focus on the disease or disorder outcome rather than the exposure
- Studies of incidence, prevalence and determinants of co-morbidities and multi-morbidities in populations with cardiovascular and respiratory diseases
- Applications may use methodologies and study designs including cohort, case-control, prospective, longitudinal, retrospective, clinical trial, cross-sectional, surveillance, genetics, epigenetics, omics (i.e. genomics, transcriptomics, proteomics, metabolomics, epigenomics, metagenomics) and assessment of gene-environment interactions

Shared Interests and Overlaps

There are shared interests in cardiovascular diseases in humans with Clinical Integrative Cardiovascular and Hematological Sciences (CCHS). Applications that emphasize determinants and distribution of cardiovascular diseases in human subpopulations including relating clinical biomarkers to disease progression are reviewed in CRD. Applications that emphasize cardiovascular physiology of humans, or elucidating mechanisms of cardiovascular disease typically in small populations are reviewed in CCHS.

There are shared interests in respiratory conditions with Respiratory Integrative Biology and Translational Research (RIBT). Applications that emphasize the distribution and determinants of respiratory diseases conditions in human subpopulations with an epidemiological approach are reviewed in CRD. Applications that emphasize to studying physiologic and/or mechanistic aspects of pulmonary conditions using both animal models and a more patient-oriented rather than population-oriented approach to clinical populations are reviewed in RIBT.

There are shared interests in characterizing the role of diet in cardiovascular and respiratory health at the population level with Lifestyle and Health Behaviors (LHB). Applications that focus on lifestyle and health behaviors as part of a panel of risk factors or biomarkers of cardiovascular and/or respiratory

population health outcomes from a more biological and biomedical perspective are reviewed in CRD. Applications that focus on the characterization of lifestyle and health behaviors that affect cardiovascular and/or respiratory health outcomes at the population level from a more behavioral perspective are reviewed in LHB.

There are shared interests in studying cardiometabolic disorders that incorporate obesity, diabetes and heart disease with Kidney, Endocrine and Digestive Disorders (KEDD). Applications that focus on the role of cardiovascular causes and consequences of cardiometabolic disorders at the population level are reviewed in CRD. Applications that focus on the role of endocrine and metabolic causes and consequences of cardiometabolic disorders at the population level are reviewed in KEDD.

There are shared interests in assessing genetic predisposition to diseases of the cardiovascular and respiratory systems in large population samples with Genetics of Health and Disease (GHD). Applications that emphasize how these factors contribute to health outcomes in human subpopulations are reviewed in CRD. Applications that emphasize discovery of genetic, genomic, epigenomic elements and molecular signatures are reviewed in GHD.

There are shared interests in pharmacoepidemiology and comparative effectiveness studies with the Health Services: Quality and Effectiveness (HSQE) study section. Applications that emphasize the defining the characteristics of populations that respond to drug treatments as well as the risk factors associated with treatment responses for cardiovascular and respiratory conditions and diseases without focusing on the associated healthcare modalities are reviewed in CRD. Applications that emphasize the quality and effectiveness of healthcare delivery and receipt of services including drug prescribing, adherence patterns and cost-effectiveness at the individual, patient and population level are reviewed in HSQE.

Kidney, Endocrine, and Digestive Disorders (KEDD)

The Kidney, Endocrine and Digestive Disorders (KEDD) study section reviews applications that address of the determinants, predictors and biomarkers of diseases and conditions related to the kidney, endocrine, urological, and digestive systems from a population health perspective. Applications reviewed will examine a range of exposures and risk factors for these diseases and conditions including but not limited to genetic, epigenetic, biological, biomedical and environmental risk factors. Studies are reviewed with a population health focus, including consideration of health equity within and across populations. Applications that focus on the pathophysiology or the underlying mechanisms of these diseases and disorders especially those that primarily use animal or other experimental models are reviewed in other study sections.

Topics

- Studies addressing the incidence, prevalence, progression and consequences of kidney diseases and conditions including chronic kidney disease, acute kidney injury and kidney transplantation in large populations
- Studies addressing the incidence, prevalence, progression and consequences of liver disorders and conditions in large populations including cirrhosis, nonalcoholic fatty liver disease and liver transplantation
- Studies addressing the incidence, prevalence, progression and consequences of endocrine and metabolic disorders and conditions in large populations including obesity, type 1 and type 2 diabetes, and hormonal disorders
- Studies addressing the incidence, prevalence, progression and consequences of digestive and nutritional disorders and conditions in large populations including inflammatory bowel disease, celiac disease, Crohn's disease, dysbiosis of gut microbiota and malnutrition
- Studies of incidence, prevalence and determinants of co-morbidities and multi-morbidities in populations with kidney, endocrine, liver, or digestive disorders
- Studies examining the effects of environmental and other exposures on incidence, progression, and outcomes related to kidney, endocrine, urological, and digestive systems in large populations, especially with a focus on the disease or disorder outcome rather than the exposure
- Applications may use methodologies and study designs including cohort, case-control, prospective, longitudinal, retrospective, clinical trial, cross-sectional, surveillance, genetics, epigenetics, omics (i.e. genomics, transcriptomics, proteomics, metabolomics, epigenomics, metagenomics) and assessment of gene-environment interactions

Shared Interests and Overlaps

There are shared interests in the effects of obesity and diabetes during pregnancy and the perinatal period on health outcomes of both the mother and offspring with Reproductive, Perinatal, and Pediatric Health (RPPH). Applications that focus on obesity and gestational diabetes as an exposure related to pregnancy and birth outcomes at the population level may be reviewed in RPPH. Applications that focus on obesity and diabetes during pregnancy and perinatal period including gestational diabetes as a health outcome at the population level may be reviewed in KEDD.

There are shared interests in understanding diabetes and obesity with Human Studies of Diabetes and Obesity (HSDO). Applications that emphasize risk or protective factors of diabetes and obesity in human

subpopulations are reviewed in KEDD. Applications that emphasize mechanisms underlying the pathophysiology of diabetes and obesity are reviewed in HSDO.

There are shared interests in health behaviors with Lifestyle and Health Behaviors (LHB). Applications that emphasize health behaviors such as diet and physical activity as risk factors for diabetes and obesity from a more biological and biomedical perspective are reviewed in KEDD. Applications that emphasize the contribution of health behaviors like diet and physical activity to diabetes and obesity from a more behavioral perspective are reviewed in LHB.

There are shared interests in studying cardiometabolic disorders that incorporate obesity, diabetes and heart disease with Cardiovascular and Respiratory Diseases (CRD). Applications that focus on the role of endocrine and metabolic causes and consequences of cardiometabolic disorders at the population level are reviewed in KEDD. Applications that focus on the role of cardiovascular causes and consequences of cardiometabolic disorders at the population level are reviewed in CRD.

There are shared interests in kidney and urological conditions with Pathobiology of Kidney Disease (PBKD) and Kidney and Urological Systems Function and Dysfunction (KUFD). Applications that emphasize the determinants, predictors and biomarkers of kidney conditions in human subpopulations are reviewed in KEDD. Applications that emphasize the pathophysiology and mechanisms underlying kidney conditions including using animal models are reviewed PBKD. Applications that emphasize the developmental mechanisms and functions underlying of kidney and urological systems in humans are reviewed in KUFD.

There are shared interests in studying the genetic predisposition to disease using population-based samples with Genetics of Health and Disease (GHD). Applications that emphasize how these factors contribute to health outcomes in human subpopulations are reviewed in KEDD. Applications that emphasize discovery of genetic, genomic, epigenomic elements and molecular signatures are reviewed in GHD.

Lifestyle and Health Behaviors (LHB)

The Lifestyle and Health Behaviors (LHB) study section reviews applications that study lifestyle and health behaviors as factors or processes that contribute to health and disease outcomes using population health or epidemiological approaches. Applications may focus on characterizing lifestyle and health behavioral factors associated with biological and biomedical health outcomes or health states from a population health perspective, including the effects of lifestyle and health behavior-based interventions. Lifestyle and health behaviors can include but are not limited to diet, sleep, physical activity, alcohol, tobacco, and drug use as well as behavioral decision-making and adoption of health-related behaviors. Studies are reviewed with a population health focus with consideration of health equity within and across populations, including inter-group differences in manifestation and consequences of such exposures. Applications that focus on the pathophysiology or the underlying mechanisms of health behaviors especially those that primarily use animal or other experimental models are reviewed in other study sections.

Topics

- Studies using cohorts or population data to characterize substance use behavior including the use of alcohol, tobacco, licit and illicit drugs, and other substances
- Studies using cohorts or large population data to examine human behaviors in the area of dietary patterns and physical activity including eating and sedentary behavior as outcomes or determinants of biological and biomedical health outcomes
- Studies using cohorts or large population data to examine sleep quality and duration as outcome or determinant of other biological and biomedical health outcomes
- Studies optimizing the measurement of lifestyle and health behaviors including diet, physical activity and sleep measurement
- Studies using cohorts or population approaches to examine health and care engagement from a population health perspective including longitudinal studies of lifestyle patterns associated with health and disease
- Applications may use methodologies and study designs including cohort, case-control, prospective, longitudinal, retrospective, clinical trial, cross-sectional, surveillance, genetics, epigenetics, omics (i.e. genomics, transcriptomics, proteomics, metabolomics, epigenomics, metagenomics) and assessment of gene-environment interactions to look at lifestyle or health behaviors as well as their associations with multiple biological and biomedical health outcomes

Shared Interests and Overlaps

There are shared interests in substance use with a population-based focus with Neurological, Mental and Behavioral Health (NMBH). Applications that focus on health behaviors as an exposure or health outcome are reviewed in LHB, for example applications focused on substance use or how substance use affects other health outcomes. Applications that emphasize behavioral health conditions or disorders as the health outcome, for example applications focusing on substance use disorders, are reviewed in NMBH.

There are shared interests in lifestyle behavior effects on health outcomes with Lifestyle Change and Behavioral Health (LCBH). Applications that emphasize the evaluation of population-level interventions to change lifestyle health behaviors are reviewed in LHB. Applications that emphasize the adoption or

implementation of behavioral approaches to promote health at the individual or small group levels are reviewed in LCBH.

There are shared interests in characterizing the role of lifestyle and health behaviors in cardiovascular and respiratory health at the population level with Cardiovascular and Respiratory Diseases (CRD). Applications that emphasize the characterization of lifestyle and health behaviors that affect cardiovascular and/or respiratory health outcomes at the population level from a more behavioral perspective may be reviewed in LHB. Applications that assess lifestyle and health behaviors as part of a panel of risk factors or biomarkers of cardiovascular and/or respiratory population health outcomes from a more biological and biomedical perspective may be reviewed in CRD.

There are shared interests in characterizing the role of lifestyle and health behaviors in cancer outcomes at the population level with Cancer and Hematologic Disorders (CHD). Applications that focus on the lifestyle and health behaviors associated with cancer outcomes at the population level from a more behavioral perspective are reviewed in LHB. Applications that focus on lifestyle and health behaviors as part of a panel of risk factors of cancer population health outcomes from a more biological and biomedical perspective are reviewed in CHD.

There are shared interests in health behaviors with Kidney, Endocrine and Digestive Disorders (KEDD). Applications that emphasize the contribution of health behaviors like diet and physical activity to diabetes and obesity from a more behavioral perspective are reviewed in LHB. Applications that emphasize health behaviors such as diet and physical activity as risk factors for diabetes and obesity from a more biological and biomedical perspective are reviewed in KEDD.

There are shared interests in the measurement of lifestyle and health behaviors like diet, sleep and physical activity with Analytics and Statistics for Population Research Panel B (ASPB). Applications that primarily apply this methodology to measure lifestyle and health behaviors and their relationship with population health outcomes including the assessment of the efficacy of technology-based assessments of health behaviors are reviewed in LHB. Applications that primarily develop and adapt methodology to better analyze lifestyle and health behaviors data including data from wearable device and smartphone apps are reviewed in ASPB.

There are shared interests in sleep with Mechanisms of Emotion, Stress and Health (MESH). Applications that use a population-based approach to studying sleep as an exposure that affects health outcomes or sleep as a health outcome in human subpopulations from a more behavioral perspective are reviewed in LHB. Applications that focus on the interactions of sleep as an exposure related to physical and mental illness and health from a biological and mechanistic perspective, mostly using laboratory-based studies, are reviewed in MESH.

There are shared interests in addictive behavior with Addiction Risks and Mechanisms (ARM). Applications that emphasize addictive behaviors in human subpopulations are reviewed in LHB. Applications that emphasize addictive behaviors at the individual level are reviewed in ARM.

Neurological, Mental and Behavioral Health (NMBH)

The Neurological, Mental and Behavioral Health Study Section (NMBH) study section reviews applications that address the etiology, determinants, distribution and outcomes of neurological, mental and behavioral conditions and disorders from a population health perspective. Applications reviewed in this study section look to characterize the effect of genetic, epigenetic, biological and environmental factors on the risk, development and progression of these brain-related conditions and disorders. Studies reviewed in NMBH have a population health focus, including consideration of health equity within and across populations. Applications that focus on the pathophysiology or the underlying mechanisms of these conditions and disorders especially those that primarily use animal or other experimental models are reviewed in other study sections.

Topics

- Studies addressing the incidence, prevalence, progression and consequences of neurological diseases and phenotypes in large populations ranging from neurodevelopmental disorders to neurological conditions related to aging
- Studies addressing the incidence, prevalence, progression and consequences of mental health, mental disorders and related phenotypes, behavioral health and behavioral disorders including substance use disorders in large populations
- Studies addressing the incidence, prevalence, progression and consequences of communication and visual disorders and related traits in large populations including abnormalities of hearing, sight, balance, taste, smell, voice, speech and language
- Studies of incidence, prevalence and determinants of co-morbidities and multi-morbidities with neurological, mental and behavioral conditions and disorders in large populations
- Studies examining the effects of environmental and other exposures on incidence, progression, and outcomes related to neurological, mental and behavioral conditions and disorders in large populations, especially with a focus on the disease or disorder outcome rather than the exposure
- Applications may use methodologies and study designs including cohort, case-control, prospective, longitudinal, retrospective, clinical trial, cross-sectional, surveillance, omics (i.e. genomics, transcriptomics, proteomics, metabolomics, epigenomics, metagenomics) and assessment of gene-environment interactions

Shared Interests and Overlaps

There are shared interests in age-related conditions such as Alzheimer's disease with Aging, Injury, Musculoskeletal and Rheumatologic Disorders (AIMR). Applications that primarily focus on characterizing the determinants of neurological diseases and disorders are reviewed in NMBH. Applications that emphasize the process of aging and how aging affects the development, progression and consequences of neurological disorders and conditions are reviewed in AIMR.

There are shared interests in substance use with a population-based focus with Lifestyle and Health Behaviors (LHB). Applications that emphasize behavioral health conditions or disorders as the health outcome, for example applications focusing on substance use disorders, are reviewed in NMBH. Applications that focus on health behaviors as an exposure or health outcome are in LHB, for example applications focused on substance use or how substance use affects other health outcomes.

There are shared interests in social or environmental epidemiology applications that assess behavioral, mental and neurological outcomes with Social and Environmental Determinants of Health (SEDH). Applications that focus on behavioral, mental and neurological health conditions and disorders at the population level incorporating environmental and/or social exposures as risk factors can be reviewed in NMBH. Applications that focus on the characterization of environmental and/or social determinants or exposures that contribute to behavioral, mental and neurological health conditions at the population level can be reviewed in SEDH.

There are shared interests in neurodevelopmental outcomes of children with Reproductive, Perinatal and Pediatric Health (RPPH). Applications that focus on neurodevelopmental outcomes in children at the population level are reviewed in NMBH. Lifecourse applications that focus on the relationship between prenatal exposures and neurodevelopmental outcomes in the children at the population level are reviewed in RPPH.

There are shared interests in human chronic neurodegenerative and neurocognitive disease with Clinical Neuroscience and Neurodegeneration Study Section (CNN). Applications that emphasize the determinant and predictors for these conditions in human subpopulations including looking the association of biomarkers with health consequences of neurological disease are reviewed in NMBH. Applications that emphasize the mechanisms and clinical management of these conditions, development of therapeutic strategies, and development of biomarkers are reviewed in CNN.

There are shared interests in behavioral and psychiatric conditions with biobehavioral processes study sections Child Psychopathology and Developmental Disabilities (CPDD) and Mechanisms of Emotion, Stress and Health (MESH). Applications that emphasize epidemiological study designs to examine determinants, predictors, and biomarkers associated with behavioral, psychiatric and substance use disorders exclusively in human subpopulations are reviewed in NMBH. Applications that emphasize the neurological foundations underlying these conditions in both experimental animal models and humans are reviewed in the biobehavioral processes study sections.

There are shared interests in studying the genetic predisposition to disease using population-based samples with Genetics of Health and Disease (GHD). Applications that emphasize how these factors contribute to health outcomes in human subpopulations are reviewed in NMBH. Applications that emphasize discovery of genetic, genomic, epigenomic elements and molecular signatures are reviewed in GHD.

Population-based Research in Infectious Disease (PRID)

The Population-based Research in Infectious Disease Study Section (PRID) study section reviews applications that characterize the incidence, transmission, and prevention of infectious diseases in human populations through identification of the determinants, predictors, and biomarkers of infection. Applications that seek to answer questions of why and how infectious diseases affect different human populations from the human host perspective are reviewed in PRID. Studies reviewed in PRID have a population health focus, including consideration of health equity within and across populations. Applications that focus on microbial pathogenesis or the host-pathogen interaction within humans are reviewed other study sections especially those that primarily use animal or other experimental models.

Topics

- Studies on a range of Infectious diseases to understand their effect on human populations or sub-populations including bacterial, fungal, parasitic, vector-borne, zoonotic and viral diseases with attention to emerging and drug-resistant infections
- Assessment of human genetic, epigenetic, social, biological, behavioral and environmental factors that affect susceptibility to infection, disease progression and severity of infectious disease outcomes in human populations. This includes identification of biomarkers tracing both natural infection and responses to infectious disease control efforts at the human population level.
- Surveillance studies characterizing the prevalence, incidence and outcomes of infectious diseases in human populations and subpopulations as well as different settings including community or healthcare environments
- Epidemiological studies to assess changes in infectious disease transmission dynamics and burden in human populations over time
- Applications may use methodologies and study designs including cohort, case-control, prospective, longitudinal, retrospective, clinical trial, cross-sectional, and surveillance and monitoring systems. Applications may use variable data types including clinical, behavioral, social, environmental, omics (i.e. genomics, transcriptomics, proteomics, metabolomics, epigenomics, metagenomics) and assessment of gene-environment interactions

Shared Interests and Overlaps

There are shared interests in the epidemiology of infectious disease with Etiology, Diagnostic, Intervention and Treatment of Infectious Diseases (EDIT) . Applications that emphasize infectious disease epidemiology on the characteristics of human populations that drive the spread of infectious disease or intended to inform with the use of large human population/community approaches and emphasize host characteristics, epigenetics, and behavioral, social and environmental factors to infection prevention and control are reviewed in PRID. Applications that emphasize molecular mechanism associated with diagnosis or other disease contributing factors where the infectious agent is the focus are reviewed in EDIT.

There are shared interests in infectious disease transmission modeling with Analytics and Statistics for Population Research Panel B (ASPB). Applications that emphasize the application of infectious disease modeling and geospatial analysis methodology to characterize infectious disease transmission in large human populations are reviewed in PRID. Applications that emphasize the development of infectious

disease dynamic modeling and geospatial analysis methodology to be applied in future population health studies are reviewed in ASPB.

There are shared interests in the environmental and social determinants of infectious disease dynamics with Social and Environmental Determinants of Health (SEDH). Applications that primarily focus on infectious disease transmission and outcomes with consideration of social and environmental determinants can be reviewed in PRID. Applications that focus on the characterization of environmental and/or social determinants or exposures that influence infectious disease transmission and outcomes at the population level can be reviewed in SEDH.

There are shared interests in infectious disease with other study sections in the Epidemiology and Population Health Branch. Applications that emphasize the infectious disease process in different human populations including the effects of other diseases and conditions on infectious disease transmission and outcomes are reviewed in PRID. Applications that emphasize infection as the exposure and the focus of the application is on the effects of current or past infection on noncommunicable disease or other health outcomes at the population level are reviewed in other study sections in the Epidemiology and Population Health Branch.

There are shared interests in infectious disease in humans with study sections in Immunology and Infectious Diseases A (IIDA) and Immunology and Infectious Diseases B (IIDB) Review Branches. Applications that seek to identify biomarkers that are associated with disease incidence, progression and treatment outcomes at the human population level to better understand how infections progress in different human populations are reviewed in PRID. Applications that seek to define the mechanisms underlying host-pathogen interactions at the intracellular and cellular levels as well as define the immune response to infection at the individual human level with laboratory-based studies are reviewed in other immunology and infectious disease study sections.

There are shared interests in studying the genetic predisposition to disease using population-based samples with Genetics of Health and Disease (GHD). Applications that emphasize how these factors contribute to health outcomes in human subpopulations are reviewed in PRID. Applications that emphasize discovery of genetic, genomic, epigenomic elements and molecular signatures are reviewed in GHD.

Reproductive, Perinatal, and Pediatric Health (RPPH)

The Reproductive, Perinatal and Pediatric Health (RPPH) study section reviews applications that study the determinants, predictors and biomarkers of diseases and conditions related to reproductive health, perinatal (pregnancy, postpartum, and neonatal), and pediatric health and applications that take a life course approach to looking at early life origins of disease from a population health perspective. RPPH applications include examination of genetic, epigenetic, social, biological, behavioral, nutritional and environmental influences as lifecourse factors that affect future biological health outcomes and risk factors that contribute to reproductive, perinatal and pediatric health outcomes at the population level. Studies reviewed in RPPH have a population health focus, including consideration of health equity within and across populations. Applications that focus on the pathophysiology or the underlying mechanisms of these diseases and disorders especially those that primarily use animal or other experimental models are reviewed in other study sections.

- The scope of the reproductive health outcomes studied include gynecologic and male reproductive disorders, menstruation, menopause and female and male fertility such as studies of assisted reproductive technology outcomes examined using population-based data
- Lifecourse applications that examine the effects of prenatal or early life exposures on biological and biomedical health outcomes later in life including prenatal origins of adult disease
- The scope of perinatal health outcomes includes adverse pregnancy outcomes like preeclampsia and adverse birth outcomes like preterm birth
- The scope of pediatric health outcomes focuses from early developmental outcomes like birth defects to adolescent health outcomes like pubertal development
- Studies examining the effects of environmental and other exposures on incidence, progression, and outcomes related to reproductive, perinatal and pediatric health in large populations, especially with a focus on the disease or disorder outcome rather than the exposure
- Applications may use methodologies and study designs including cohort, case-control, prospective, longitudinal, retrospective, clinical trial, cross-sectional, surveillance, omics (i.e. genomics, transcriptomics, proteomics, metabolomics, epigenomics, metagenomics) and assessment of gene-environment interactions to look at lifestyle or health behaviors as well as their associations with multiple biological and biomedical health outcomes

Shared Interests and Overlaps

There are shared interests in neurodevelopmental outcomes of children with Neurological, Mental and Behavioral Health (NMBH). Lifecourse applications that focus on the relationship between prenatal exposures and neurodevelopmental outcomes in the children at the population level are reviewed in RPPH. Applications that focus on neurodevelopmental outcomes in children at the population level are reviewed in NMBH.

There are shared interests in the effects of obesity and diabetes during pregnancy and the perinatal period on health outcomes of both the mother and offspring with Kidney, Endocrine and Digestive Disorders (KEDD). Applications that focus on obesity and diabetes during pregnancy and perinatal period including gestational diabetes as a health outcome at the population level may be reviewed in KEDD. Applications that focus on obesity and gestational diabetes as an exposure related to pregnancy and birth outcomes at the population level may be reviewed in RPPH.

There are shared interests in reproductive health using population-level data with Social Sciences and Population Studies (SSPA/SSPB). Applications that emphasize epidemiological studies of reproductive health that include assessment of the biological, behavioral, social and clinical determinants of reproductive health outcomes are reviewed in RPPH. Applications that emphasize population level changes in reproduction and sexuality, such as fertility patterns or social and cultural determinants of contraceptive use and childbearing are reviewed in SSPA/SSPB.

There are shared interests in environmental epidemiology applications with Social and Environmental Determinants of Health (SEDH). Applications that primarily focus on reproductive and/or perinatal health outcomes at the population level with consideration for social and environmental factors are reviewed in RPPH. Applications that primarily focus on the characterization of the environmental and/or social determinants as exposures related to reproductive and/or perinatal health outcomes at the human population level are reviewed in SEDH.

There are shared interests in pregnancy with Pregnancy and Neonatology Study Section (PN). Applications that emphasize the determinants of pregnancy and neonatal health outcomes in human subpopulations are reviewed in RPPH. Applications that emphasize the physiology and pathophysiology of pregnancy and the neonatal period including clinical obstetrics and maternal fetal medicine to understand the mechanisms underlying pregnancy and its disorders are reviewed in PN.

There are shared interests in studying the genetic predisposition to disease using population-based samples with Genetics of Health and Disease (GHD). Applications that emphasize how these factors contribute to health outcomes in human subpopulations are reviewed in RPPH. Applications that emphasize discovery of genetic, genomic, epigenomic elements and molecular signatures are reviewed in GHD.

Social and Environmental Determinants of Health (SEDH)

The Social and Environmental Determinants of Health (SEDH) study section reviews applications that examine social and environmental determinants of health and how they manifest in biological and biobehavioral health outcomes using population level data. Environmental factors include but are not limited to toxicant exposure and the physical built environment, and social factors include but are not limited to living conditions, socioeconomic status and social inequalities. Studies reviewed in SEDH include consideration of health equity within and across populations. Applications that focus on the biological or biochemical mechanisms underlying the health effects of social and environmental exposures especially those that primarily use animal or other experimental models are reviewed in other study sections.

Topics

- Studies that examine social determinants of biological effects and biomedical and biobehavioral health outcomes using population level data.
- Studies that assess the role of climate and climate-related exposures in biological and biomedical health outcomes using population level data
- Studies that assess the role of exposure to toxicants and contaminants in the indoor as well as outdoor environment on biological and biomedical health outcomes using population level data including exposures from air, water, food, and soil
- Studies that examine the intersection between environmental and social factors that affect biological and biomedical health outcomes using population level data
- Applications may use methodologies and study designs including cohort, case-control, prospective, longitudinal, retrospective, clinical trial, cross-sectional, surveillance, genetics, epigenetics, omics (i.e. genomics, transcriptomics, proteomics, metabolomics, epigenomics, metagenomics) and assessment of gene-environment interactions

Shared Interests and Overlaps

There are shared interests in social epidemiology applications that assess how social environments affect population health with Social Sciences and Population Studies (SSPA/B). Applications that emphasize the identification of social determinants of health and their relationship with biological, biomedical or biobehavioral outcomes including genetic and epigenetic studies are reviewed in SEDH. Applications that emphasize the social and policy determinants of broad population health or demographic outcomes such as well-being, morbidity and mortality and behavioral health outcomes such as depression and economic outcomes are reviewed in SSPA/B.

There are shared interests in geographic and temporal relationship between environmental exposures and human population level health outcomes with the Analytics and Statistics for Population Research Panel B (ASPB). Applications emphasize the application of spatial methodology to assess the contribution of social and environmental exposures to population health outcomes are reviewed in SEDH. Applications that emphasize the development and enhancement of spatial, spatio-temporal, and geospatial for environmental exposure modeling and assessment of related human population health outcomes are reviewed in ASPB.

There are shared interests in environmental epidemiology applications with Reproductive, Perinatal, and Pediatric Health (RPPH). Applications that primarily focus on the characterization of the environmental

and/or social determinants as exposures related to reproductive and/or perinatal health outcomes at the human population level are reviewed in SEDH. Applications that primarily focus on reproductive and/or perinatal health outcomes at the population level with consideration for social and environmental factors are reviewed in RPPH.

There are shared interests in social and environmental exposures with other study sections in the Epidemiology and Population Health Branch. Applications that focus on characterizing environmental or social exposures that are associated with multiple biological and biomedical health outcomes in human populations may be reviewed in SEDH. Applications that focus on the study of various health and disease states in populations while incorporating environmental and/or social exposures as risk factors are reviewed in other study sections focused on those diseases and conditions in the Epidemiology and Population Health Branch.

There are shared interests in the effects of environmental exposures on human health with Systemic Injury by Environmental Exposure (SIEE). Applications that focus on characterizing the relationship between environmental exposures and human health outcomes at the population level are reviewed in SEDH. Applications that focus on the pharmacological and toxicological mechanisms by which environmental toxicant exposures affect human disease pathogenesis are reviewed in SIEE.

There are shared interests in stress exposures with Mechanisms of Emotion, Stress and Health (MESH). Applications that emphasize stress as a social determinant of health and its association with biological health outcomes in human subpopulations are reviewed in SEDH. Applications that take a mostly laboratory-based approach to understanding the biological mechanisms underlying the association between stress and biological outcomes in humans are reviewed in MESH.

There are shared interests in studying the genetic predisposition to disease using population-based samples with Genetics of Health and Disease (GHD). Applications that emphasize the social or environmental genomics/epigenomic factors related to human diseases or conditions in human subpopulations are reviewed in SEDH. Applications that emphasize the molecular processes underlying the genetic/epigenetic risk factors associated with these disorders are reviewed in GHD.

Etiology, Diagnostic, Intervention and Treatment of Infectious Diseases (EDIT)

The Etiology, Diagnostic, Intervention and Treatment of Infectious Diseases (EDIT) study section reviews translational and applied applications that address the emergence, diagnosis, surveillance and control of infectious diseases that affect humans. It considers applications involving bacteria, viruses (excluding HIV), fungi, parasites and other infectious agents such as prions and bacteriophages.

Topics

- Clinical studies and field research for the development and evaluation of treatment and other strategies to combat infectious diseases
- Studies that identify pathogenic factors and potential control strategies in the emergence and spread of infectious diseases in humans
- Diagnostic tools for the detection, identification, and field monitoring of infectious diseases
- Molecular etiology of infectious diseases, including genetic characterization of the pathogen and the host immune responses on a large scale setting
- Studies that address the potential infectious etiology of uncharacterized pathologies

Shared Interests and Overlaps

There are shared interests in the epidemiology of infectious disease with Population-based Research in Infectious Disease (PRID) . Applications that emphasize molecular mechanism associated with diagnosis or other disease contributing factors where the infectious agent is the focus are reviewed in EDIT. Applications that emphasize infectious disease epidemiology on the characteristics of human populations that drive the spread of infectious disease or intended to inform with the use of large human population/community approaches and emphasize host characteristics, epigenetics, and behavioral, social and environmental factors to infection prevention and control are reviewed in PRID.

There are shared interests in infectious disease transmission modeling Analytics and Statistics for Population Research Panel B (ASPB). Applications that emphasize microbial ecology and monitoring pathogens during the transmission of infectious diseases are reviewed in EDIT. Applications that emphasize the development and validation of infectious disease modeling methodology focused on the transmission in human populations are reviewed in ASPB.

There are shared interests in host immune responses to infectious agents with Immunity and Host Defense Study Section (IHD). Applications that emphasize host immune responses in a population-based studies are reviewed in EDIT. Applications that emphasize immune responses to infectious agents, including post vaccination responses, mechanisms of the host response, and animal models are reviewed in IHD.

There are shared interests in bacterial pathogenesis and host immune responses with Host Interactions with Bacterial Pathogens (HIBP) and Bacterial Pathogenesis (BACP). Applications that emphasize bacterial pathogenesis and host immune responses in population-based studies are reviewed in EDIT. Applications that emphasize general pathogenesis issues associated with bacterial infections including host-bacterial interactions and mechanistic in vitro studies or animal models of bacterial diseases are reviewed in HIBP. Applications that emphasize general pathogenesis issues associated with bacterial infections focusing on the bacteria side are reviewed in BACP.

There are shared interests in eukaryotic pathogens with Pathogenic Eukaryotes Study Section (PTHE). Applications that emphasize large scale studies examining human-eukaryote interactions and diagnosis are reviewed in EDIT. Applications that emphasize mechanistic in vitro studies and animal models of eukaryotic pathogens are reviewed in PTHE.

There are shared interests in general virology with Virology A (VIRA) & Virology B (VIRB). Applications that emphasize larger scale, virus-human interactions and diagnosis are reviewed in EDIT. Applications that emphasize mechanistic in vitro studies and animal models of viral diseases are reviewed in VIRA or VIRB.

There are shared interests in etiology, maintenance and evolutionary outcomes of infectious diseases with Genetic Variation and Evolution (GVE). Applications that emphasize the origin/etiological determination of infectious agents in human diseases are reviewed in EDIT. Applications that emphasize a genomic focus or wish to understand genetic variation among host or pathogen with the use of modeling are reviewed in GVE.

Genetics of Health and Disease (GHD)

The Genetics of Health and Disease (GHD) study section reviews applications that focus on the discovery, application and interpretation of genetic and genomic variation in human phenotype and disease. These topics are investigated using molecular genetics and genomics approaches, employing human subjects and data, cultured mammalian cells, and animal model systems. Applications focused on the role of known candidate genes in the pathogenesis of a disease or on refining phenotypes for genetic studies of disease are reviewed in other disease-oriented study sections.

Topics

- Discovery and characterization of genetic and genomic variation that includes single nucleotide polymorphisms (SNPs), haplotypes, common and rare genetic variants, copy number variants, and gene regulatory elements associated with human health and diseases that involve but are not limited to the cardiovascular, neurological, auditory, immunological, respiratory, ophthalmological, psychiatric, endocrinological, reproductive, and urological systems.
- Studies focusing on SNPs, gene loci and genomic regions to identify or advance understanding of those regions, role of loci and genetic risks with methods including but not limited to genome-wide association studies, quantitative trait locus (QTL) and eQTL analysis, polygenic risk score assessment, admixture mapping and genetic ancestry analysis, whole genome and exome sequencing, and genome organization analyses.
- Epigenetic modification and regulation in human health and diseases that include but are not limited to DNA methylation and imprinting, X inactivation, histone modifications, non-coding RNAs, gene - environment interactions, maternal and paternal effects in the context of genetic and genomic variation in order to identify or advance understanding of molecular processes.
- Aneuploidy, translocations, chimerism, mosaicism, and dosage effects in the context of genetic and genomic variation in human phenotype and disease.

Shared Interests and Overlaps

There are shared interests in the application of genomic technologies to the identification of genes involved in human disease with Genomics, Computational Biology and Technology (GCAT). Applications that emphasize the identification genes for a specific disease using existing methodologies are reviewed in GHD. Applications that emphasize the development of new genomic and epi-genomic methods irrespective of the disease are reviewed in GCAT.

There are shared interests in evolutionary biology topics and methods with Genetic Variation and Evolution (GVE). Applications that use existing evolutionary concepts for gene discovery are reviewed in GHD. Applications that emphasize revealing evolutionary concepts for generation of genetic variation in diseases are reviewed in GVE.

There are shared interests in rare genetic disease with Therapeutic Approaches to Genetic Diseases (TAG). Applications that emphasize mendelian gene discovery with complex genetic or genomic methods are reviewed in GHD. Applications that emphasize molecular mechanisms of genetic disease pathogenesis or focused on development of therapies are reviewed in TAG.

There are shared interests in genetics of neuroscience with Molecular Neurogenetics (MNG). Applications in which the focus is on molecular genetic and genomic variation are reviewed in GHD.

Applications that emphasize neurodevelopment, neural function and neuropathology aspects are reviewed in MNG.

There are shared interests in assessing genetic predisposition to diseases and the identification of genetic and epigenetic risk or protective factors relating to diseases in large human population studies with Epidemiology and Population Health Branch study sections **AIMR, PRID, CRD, CHD, KEDD, and RPPH.** in large human population studies. Applications that emphasize discovery of genetic, genomic, epigenomic elements and molecular signatures are reviewed in GHD. Applications that emphasize how these factors contribute to health outcomes in populations are reviewed in study sections in the Epidemiology and Population Health Branch.

There are shared interests in studying the genetic predisposition to disease using population-based samples with Social and Environmental Determinants of Health (SEDH). Applications in studying the genetic predisposition to disease using population-based samples are reviewed in GHD. Applications that emphasize the social or environmental genomics/epigenomic factors related to human diseases or conditions at the population level are reviewed in SEDH.