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Scientific Areas of Integrated Review Groups (IRGs)

For a listing of the Scientific Review Officer and membership roster for each study section, click on the study section roster under the study section name within an IRG listed below or go to the [study section index](#) (study sections listed alphabetically) and click on the specified roster next to the name of the study section.

Digestive, Kidney and Urological Systems IRG [DKUS]

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- [Clinical, Integrative and Molecular Gastroenterology \[CIMG\]](#)
- [Cellular and Molecular Biology of the Kidney Study Section \[CMBK\]](#)
- [Gastrointestinal Mucosal Pathobiology Study Section \[GMPB\]](#)
- [Hepatobiliary Pathophysiology Study Section \[HBPP\]](#)
- [Pathobiology of Kidney Disease Study Section \[PBKD\]](#)
- [Xenobiotic and Nutrient Disposition and Action Study Section \[XNDA\]](#)
- [Urologic and Kidney Development and Genitourinary Diseases Study Section \[UKGD\]](#)
- [Digestive Sciences Small Business Activities \[SBIR/STTR\] Special Emphasis Panel \[DKUS \(10\)\]](#)
- [Renal and Urological Sciences Small Business Activities \[SBIR/STTR\] Special Emphasis Panel \[DKUS \(11\)\]](#)

Clinical, Integrative and Molecular Gastroenterology [CIMG]

[\[CIMG Membership Roster\]](#) [\[CIMG Meeting Rosters\]](#)

The Clinical, Integrative and Molecular Gastroenterology [CIMG] Study Section reviews applications concerned with molecular, integrative and clinically-oriented research related to the gastrointestinal (GI) system, including GI development and growth/differentiation control, GI dysplasia and pre-neoplasia, motility, brain-gut interactions, enteric nervous system, motor disorders, acid secretion and acid related disease, GI hormones, pancreatic function and dysfunction, GI system nutrient absorption, malabsorption/malnutrition, nutritional support, integrative GI physiology, genetic determinants of digestive diseases and GI system patient-oriented research.

Specific areas covered by CIMG are:

- GI development and growth/differentiation control, GI stem cell biology, regulation of mechanisms of gene expression in the GI tract, GI dysplasia and pre-neoplasia, including mechanisms of transformation, immortalization, and mutagenesis.
- GI motility, neurotransmitters, brain-gut interactions, enteric nervous system. GI hormones, transmitters, and their actions. Acid secretion and acid

related disease. Fluid and electrolyte transport, diarrhea and constipation. Digestive system nutrient absorption and disposition, malabsorption/malnutrition.

- Exocrine pancreas function and dysfunction, therapy for genetic and acquired pancreatitis.
- Integrative GI physiology: Studies ranging from normal physiology to mechanisms and consequences of disease. Genetic determinants of digestive diseases, including increased risk of disorders of the digestive tract, inherited metabolic disorders, gene-gene interactions, genetic risk assessment, gene-environment interactions, structure/function analysis of disease-causing genes, and gene and somatic cell therapy.
- Patient-oriented research. Studies of risk factors, etiology, detection, screening, modifying factors and therapy of GI diseases and disorders. Clinical, population and integrative studies of the responses of the digestive system to trauma or surgery, and digestive system ischemia/reperfusion injury.

Study sections with most closely related areas of similar science listed in rank order are:

[Gastrointestinal Mucosal Pathobiology \[GMPB\]](#)
[Xenobiotic and Nutrient Disposition and Action \[XNDA\]](#)
[Cancer Etiology \[CE\]](#)
[Integrative Nutrition and Metabolic Processes \[INMP\]](#)
[Cancer Molecular Pathobiology \[CAMP\]](#)

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Cellular and Molecular Biology of the Kidney Study Section [CMBK]

[\[CMBK Membership Roster\]](#) [\[CMBK Meeting Rosters\]](#)

The Cellular and Molecular Biology of the Kidney [CMBK] Study Section reviews grant applications involving basic and applied aspects of normal and abnormal renal physiology, cell biology, transport biology, including osmoregulation and osmosensing, hormone action and signal transduction, vascular biology, genetic disorders, cell-matrix interactions, biophysics, and bioenergetics.

Specific areas covered by CMBK:

- Molecular biology and physiology of transport relevant to renal function and disease including inherited abnormalities and the pharmacology of kidney function.
- Protein metabolism and cell polarity relevant to the function of the kidney.
- Disorders of tubular epithelial and endothelial cells as they relate to kidney diseases.
- Identification and characterization of genes that cause kidney diseases in humans and animal models. Including the pathophysiology and cellular and molecular consequences of genetic disorders (including polycystic kidney disease and disorders of tubular function).
- Integrated aspects of disordered fluid, electrolyte, and acid-base homeostasis resulting from abnormalities in the transport systems; blood pressure and extracellular fluid volume homeostasis causing hypertension.

Study sections with most closely related areas of similar science listed in rank order are:

[Pathobiology of Kidney Disease \[PBKD\]](#)
[Urologic and Kidney Development and Genitourinary Diseases \[UKGD\]](#)
[Hypertension and Microcirculation \[HM\]](#)
[Membrane Biology and Protein Processing \[MBPP\]](#)
[Cellular Signaling and Regulatory Systems \[CSRS\]](#)

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Gastrointestinal Mucosal Pathobiology Study Section [GMPB]

[\[GMPB Membership Roster\]](#) [\[GMPB Meeting Rosters\]](#)

The Gastrointestinal Mucosal Pathobiology [GMPB] Study Section reviews applications involving gastrointestinal immunology, host-microbial interactions, intestinal infections, inflammation including inflammatory bowel diseases, and epithelial cell biology as it relates to mucosal defense or repair. Approaches may utilize in vitro systems, animal models, or research involving human samples and systems. Emphasis is on basic and translational approaches to mucosal pathophysiology.

Specific areas covered by GMPB include:

- GI mucosal immunology including both innate and adaptive immunity.
- Mechanisms of acute and chronic intestinal inflammation as they relate to pathogenesis. Basic and clinical studies in human inflammatory bowel disease, gluten sensitive enteropathy, auto-immune gastritis, other types of immune-mediated gastrointestinal diseases, necrotizing enterocolitis, and the immune responses to GI infections. Dysplasia and pre-neoplasia as a consequence of chronic GI infection or inflammation (e.g. colitis or H. pylori-induced).
- Interactions between the microbiota and gastrointestinal mucosa including the effects of pathogenic bacteria (including H. pylori, Salmonella and pathogenic E. coli), commensal bacteria, and probiotics.
- Gastrointestinal cell biology and barrier function in health and disease.
- Mechanisms of epithelial injury, repair, regeneration, and adaptation. Regulation of gene expression as it relates to inflammatory and repair processes. Mechanisms of apoptosis and oxidative stress in the GI tract as they relate to inflammatory and repair processes.

Study sections with most closely related areas of similar science listed in rank order are:

[Clinical, Integrative and Molecular Gastroenterology \[CIMG\]](#)

[Cancer Etiology \[CE\]](#)

[Hypersensitivity, Autoimmune, and Immune-mediated Diseases \[HAI\]](#)

[Host Interactions with Bacterial Pathogens \[HIBP\]](#)

[Immunity and Host Defense \[IHD\]](#)

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Hepatobiliary Pathophysiology Study Section [HBPP]

[\[HBPP Membership Roster\]](#) [\[HBPP Meeting Rosters\]](#)

The Hepatobiliary Pathophysiology [HBPP] study section reviews applications involving pathophysiology and treatment of inherited and acquired viral and non viral hepatobiliary diseases; molecular biology of liver function under physiologic and pathophysiologic states; mechanisms of liver injury, repair, regeneration, and transplantation; liver cell biology, immunology and inflammation; cholesterol and bile salt metabolism; hepatobiliary transporters, hepatic protein metabolism, ion channels; and alcohol metabolism and disease.

Specific areas covered by HBPP:

- The use of isolated parenchymal and non-parenchymal cells of the liver as they relate to the pathogenesis of liver disease and progenitor cell therapy of genetic and acquired hepatobiliary diseases. Genetic basis of liver diseases.
- Mechanisms of bile formation, bile salt synthesis and cholestasis; mechanisms of hepatic cholesterol and lipid metabolism and regulation of lipoprotein genes; physiologic mechanisms of hepatobiliary transport and hepatic protein metabolism.
- Inflammatory response of the liver to injury or infection and mechanism of hepatocyte injury including immune response, oxidative stress, apoptosis, pro- and anti-inflammatory mediators. Signal transduction pathways and neuromediators.
- Liver injury, repair, regeneration, growth, differentiation, development, aging, and transplantation; Liver dysplasia and pre-neoplasia, mechanisms of transformation; immortalization and mutagenesis; Liver ischemia-reperfusion injury and regulation of splanchnic blood flow as it pertains to mechanisms of portal hypertension.
- Cellular and molecular mechanisms, gene regulation, pathogenesis, and treatment of liver diseases, such as, fibrosis and cirrhosis; cholangiopathies; gallstones and gallbladder disease; viral hepatitis as it relates to the pathogenesis of hepatobiliary disease; non-alcoholic fatty liver and alcoholic liver diseases.

Study sections with most closely related areas of similar science listed in rank order are:

[Xenobiotic and Nutrient Disposition and Action \[XNDA\]](#)

[Cancer Etiology \[CE\]](#)

[Innate Immunity And Inflammation \[III\]](#)

[Integrative Nutrition and Metabolic Processes \[INMP\]](#)

[Virology A and Virology B \[VIRA & VIRB\]](#)

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Pathobiology of Kidney Disease Study Section [PBKD]

[\[PBKD Membership Roster\]](#) [\[PBKD Meeting Rosters\]](#)

The Pathobiology of Kidney Disease [PBKD] study section reviews grant applications involving basic and clinical studies of kidney disease, investigations of pathophysiology, diagnosis, consequences and treatment of acute and chronic disorders of the kidney, the consequences of kidney disease and failure, as well as, studies of the normal structure and function of the glomerulus.

Major areas of focus covered by PBKD include:

- Normal structure and function of the glomerulus and its constituent cells; glomerular-related diseases, and renal fibrosis
- Mechanisms and consequences of acute kidney injury/acute renal failure and toxic injury to the kidney.
- Studies on basic and clinical aspects of kidney ablation, chronic allograft nephropathy, allograft rejection/tolerance, and prevention and/or treatment of rejection.
- Diabetic nephropathy, nephrotic syndrome, proteinuria, complications and management of uremia, and renal replacement therapies.
- Vascular biology of the kidney and renal hemodynamics; the role of the kidney in the regulation of blood pressure and in the development of hypertension.

Study sections with most closely related areas of similar science listed in rank order are:

[Cellular and Molecular Biology of the Kidney \[CMBK\]](#)

[Urologic and Kidney Development and Genitourinary Diseases \[UKGD\]](#)

[Hypertension and Microcirculation \[HM\]](#)

[Kidney, Nutrition, Obesity and Diabetes \[KNOD\]](#)

[Transplantation, Tolerance and Tumor Immunology \[TTT\]](#)

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Xenobiotic and Nutrient Disposition and Action Study Section [XNDA]

[\[XNDA Membership Roster\]](#) [\[XNDA Meeting Rosters\]](#)

The Xenobiotic and Nutrient Disposition and Action [XNDA] Study Section reviews applications related to the disposition of xenobiotics and supraphysiologic (SP) levels of nutrients, and the study of their mechanisms of action in normal and pathological conditions of the digestive system, as well as in multi-organ systems.

Specific areas covered by XNDA:

- Gastrointestinal and/or hepatic disposition of xenobiotics and SP nutrients, including processes of absorption, biotransformation, distribution and excretion.
- Structure-function relationships for enzymes/transporters/receptors involved in SP nutrient and/or xenobiotic disposition and effects.
- Role of genetics and genomics in disposition and effects of SP nutrients and xenobiotics. Theoretical, mechanistic, and/or integrated studies of

kinetics and/or dynamics of SP nutrients and xenobiotics.

- In vitro and in vivo models that study the molecular basis of gene-environment interactions related to the digestive system or multi-organ systems.
- Mechanisms of action of xenobiotics and SP nutrients, including toxicological and/or pharmacological effects on the digestive system or multi-organ systems.

Study sections with most closely related areas of similar science listed in rank order are:

[Hepatobiliary Pathophysiology \[HBPP\]](#)

[Cancer Etiology Study Section \[CE\]](#)

[Chemo/Dietary Prevention Study Section \[CDP\]](#)

[Drug Discovery and Molecular Pharmacology \[DMP\]](#)

[Integrative Nutrition and Metabolic Processes \[INMP\]](#)

[Macromolecular Structure and Function A Study Section \[MSFA\]](#)

[Macromolecular Structure and Function B Study Section \[MSFB\]](#)

[Macromolecular Structure and Function C Study Section \[MSFC\]](#)

[Macromolecular Structure and Function D Study Section \[MSFD\]](#)

[Macromolecular Structure and Function E Study Section \[MSFE\]](#)

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Urologic and Kidney Development and Genitourinary Diseases Study Section [UKGD]

[\[UKGD Membership Roster\]](#) [\[UKGD Meeting Rosters\]](#)

The Urologic and Kidney Development and Genitourinary Diseases [UKGD] study section reviews applications concerning physiologic and pathophysiologic processes of the lower urinary tract, male reproductive organs, female pelvic floor, urolithiasis, and basic processes underlying upper and lower genitourinary organ development.

Major areas of focus covered by UKGD include:

- Function and dysfunction of the bladder, ureter, and urethra or their component tissues. Microbial infection and inflammation in the urinary tract. Urolithiasis.
- Function and dysfunction of the prostate. Male sexual function: physiology of penile erection, pathophysiology and treatment of erectile dysfunction.
- Normal and abnormal development of the upper and lower genitourinary tract.
- Pediatric urological conditions: hydronephrosis and congenital anomalies of the penis, bladder and ureter.
- Urogynecology: pelvic floor tissues in health and disease.

Study sections with most closely related areas of similar science listed in rank order are:

[Bacterial Pathogenesis \[BACP\]](#)

[Biomedical Imaging Technology \[BMIT\]](#)

[Development-1 \[DEV1\]](#)

[Genetics of Health and Disease \[GHD\]](#)

[Tumor Microenvironment \[TME\]](#)

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Digestive Sciences Small Business Activities [SBIR/STTR] Special Emphasis Panel [DKUS (10)]

[\[SBIR/STTR Roster\]](#)

Specific areas covered by the DKUS (10) Small Business SEP:

In the Digestive, Kidney and Urological Systems [DKUS] Integrated Review Group, the Digestive Sciences Small Business Activities Special Emphasis Panel [DKUS (10)] will consider SBIR and STTR research applications that focus primarily on digestive system diagnostics, devices and therapies, and on the disposition and action of nutrients and xenobiotics. Investigators may employ a range of approaches that include genetics, genomics and proteomics, molecular, cell, and computational biology, biochemistry, biophysics and bioengineering, imaging, analyses of model organisms, and human studies.

Study Sections with related interests may be found in:

[Biological Chemistry and Macromolecular Biophysics \[BCMB\] IRG](#)

[Biology of Development and Aging \[BDA\] IRG](#)

[Bioengineering Sciences and Technologies \[BST\] IRG](#)

[Endocrinology, Metabolism, Nutrition, and Reproductive Sciences \[EMNR\] IRG](#)

[Healthcare Delivery and Methodologies \[HDM\] IRG](#)

[Oncology 1 - Basic Translational \[OBT\] IRG](#)

[Oncology 2 - Translational Clinical \[OTC\] IRG](#)

[Risk, Prevention, and Health Behavior \[RPHB\] IRG](#)

[Surgical Sciences, Biomedical Imaging and Bioengineering \[SBIB\] IRG](#)

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Renal and Urological Sciences Small Business Activities [SBIR/STTR] Special Emphasis Panel [DKUS (11)]

[\[SBIR/STTR Roster\]](#)

In the Digestive, Kidney and Urological Systems [DKUS] IRG, the Renal and Urological Sciences Small Business Activities Special Emphasis Panel [DKUS (11)] will review SBIR and STTR grant applications that focus primarily on kidney, urinary tract, and male genital system therapies, devices, and diagnostics. This includes clinical, translational and fundamental studies and investigators may employ a range of approaches that include genetics, genomics and proteomics, molecular, cell, and computational biology, biochemistry, biophysics and bioengineering, imaging, analyses of model organisms, and human studies.

Specific areas covered by the DKUS (11) Small Business SEP:

- Development and evaluation of new techniques for investigating, diagnosing and treating disorders of the kidney, urinary tract, and male genital system.
- Development of new techniques and evaluation of the efficacy of dialysis.
- Application of new technologies and methodologies to the diagnosis and treatment of urologic diseases.
- Novel approaches to regeneration and tissue engineering of the kidney, urinary tract and male genital system.
- Clinical assessment of genitourinary diseases including urinary incontinence and pelvic floor dysfunction

Study Sections with related interests may be found in:

[Biological Chemistry and Macromolecular Biophysics \[BCMB\] IRG](#)

[Biology of Development and Aging \[BDA\] IRG](#)

[Healthcare Delivery and Methodologies \[HDM\] IRG](#)

[Oncology 1 - Basic Translational \[OBT\] IRG](#)

[Oncology 2 - Translational Clinical \[OTC\] IRG](#)

[Risk, Prevention, and Health Behavior \[RPHB\] IRG](#)

[Surgical Sciences, Biomedical Imaging and Bioengineering \[SBIB\] IRG](#)

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