Contents

IIDA Branch Additions

Adaptive Immunity – AI

The Adaptive Immunity (AI) study section reviews applications that address all aspects of the adaptive immune response and its interplay with the innate immune response, in both human and animal models. Emphasis is on the adaptive immune system and the molecular and cellular processes that underpin these responses. Applications more focused on diseases with an immunologic component or addressing mammalian host-pathogen interactions from the perspective of the pathogen are generally reviewed in other study sections.

Topics:

- Molecular and cellular mechanisms of lymphocyte development, differentiation, activation, homeostasis, and receptors in primary, secondary, and tertiary lymphoid tissues (thymus, bone marrow, fetal liver, lymph nodes, spleen, tonsils, adenoids, bronchus associated lymphoid tissue or BALT, Peyers Patches, gut associated lymphoid tissue or GALT, mucosal associated lymphoid tissue or MALT, nasal associated lymphoid tissue or NALT, peripheral blood, ectopic lymphoid tissue etc.).
- Transcriptional, post-transcriptional and epigenetic gene regulation related to lymphocyte development, activation, differentiation, and function.
- Immune repertoire development and its curation to prevent self-reactivity.
- Primary adaptive immune responses, secondary immune responses, memory formation and memory cell function.
- Development and function of immune regulatory lymphocytes, such as Treg, Breg, and other cells that have regulatory functions on adaptive immune system
- Inappropriate or dysfunctional fundamental immune responses of lymphoid cells (T and B lymphocytes, lymphoblasts, and plasma cells etc.) i.e. immunodeficiency
- Tissue-specific regulation of adaptive immune responses.
- Metabolism and non-pathogen microbiome related to adaptive immune cell development, differentiation, and function.
- Comparative immunology in non-mammalian systems.
- Animal and in vitro models of adaptive immunity; non-mammalian models of adaptive immunity.
- Systems biology approaches to understand the activation and regulation of adaptive immune response and signaling.

Shared interests and overlaps:

There are shared interests with **Molecular and Structural Immunology (MSI)**. Applications that emphasize molecular/structural, biophysical, biochemical, and signaling aspects of immune cells or proteins may be reviewed in **MSI**, whereas applications that emphasize cellular or intercellular process related to adaptive immune system development, differentiation, function, and molecular mechanisms underlying such biological processes may be reviewed in **AI**.

There are shared interests with **Innate Immunity A (IIDA (81))**. The fundamental cell biology of antigen presentation/processing and the role of myeloid cells in the immune responses, as well as the differentiation and activation of innate-like lymphocytes, may be reviewed in **IIDA (81)**, whereas the impact of antigen presentation on adaptive immune responses, differentiation and activation of B and T lymphocytes, and regulatory functions of myeloid cells on adaptive immune responses may be reviewed in **AI**.

There are shared interests with **Innate Immunity B (IIB)**. Applications that focus on an integrated innate immune and/or inflammation response to infection or injury may be reviewed in **IIB**, whereas applications that focus on the impact of the innate immune system on the adaptive immune response may be reviewed in **AI**.

There are shared interests with **Mechanisms of Autoimmunity (MAI)** and **Immune Mechanisms of Hypersensitivity and Allergy (IMHA)**. The immunopathologic consequences or failures of immunoregulation that lead to autoimmunity, hypersensitivity and allergy may be reviewed in **MAI** or **IMHA** respectively, whereas fundamental processes and functions that pertain to immune system regulation may be reviewed in **AI**.

There are shared interests with **Immunobiology of Transplantation and Alloimmunity (ITA)**. The immunoregulatory processes that pertain specifically to clinical settings of transplantation may be reviewed in **ITA**, whereas fundamental mechanisms underlying immune system function and regulation may be reviewed in **AI**.

There are shared interests with the **Immunity and Host Defense (IHD)** study section**.** Applications focused on a protective adaptive or innate immune response to a specific pathogen may be reviewed in **IHD**. Applications with a greater focus on the adaptive immune response itself, irrespective of the tissue site, may be reviewed in **AI.** In addition, applications that use chronic infection models (i. e. LCMV) to mimic antigen stimulation to study immune cell processes such as exhaustion, development and migration may be reviewed in **AI**.

There are shared interests with the **Bacterial Virulence (BV)**, **Bacterial-Host Interactions (BHI)**, **Viral Pathogenesis and Immunity (VPI)**, **Viral Dynamics and Transmission (VDT)**, and **Pathogenic Eucaryotes (PTHE)**. Applications associated with infectious disease virulence and pathological outcomes may be reviewed in one of the infectious agent-centric study sections, whereas applications with a greater focus on the adaptive immune response itself may be reviewed in **AI**.

There are shared interests in age-related changes in the adaptive and innate immune systems with **Aging Systems and Geriatrics (ASG)**. Applications that emphasize age-related geriatric conditions/syndromes involving multi-systems and organs that include an immune component are reviewed in **ASG.** Applications that emphasize the impact of aging on the mechanistic pathways affecting immune cells and their molecular function (Immune aging) are reviewed in **AI**.

There are shared interests in mechanisms that regulate immune responses with **Cellular Signaling and Regulatory System (CSRS)**. Applications that emphasize intracellular signaling mechanisms related to propagation and attenuation of immune responses with respect to cellular physiology may be reviewed in **CSRS**. Applications that emphasize the immunological outcomes may be reviewed in **AI.**

There are shared interests with the **Digestive System Host Defense**, **Microbial Interactions and Immune and Inflammatory Diseases (DHMI)**, **Clinical Neuroimmunology and Brain Tumors (CNBT)**, **Hepatobiliary Pathophysiology (HBPP)**, **Lung Immunology and Infection (LII**), and several study sections within the **Endocrine and Metabolic Systems (EMS)** branch. Applications addressing impacts of the adaptive immune system on the function and pathology relevant to diseases or disorders of specific organ systems may be reviewed in study sections focusing on those systems. Applications with a greater focus on fundamental aspects of the adaptive immune response may be reviewed in **AI**.

Innate Immunity A – ZRG1 IIDA (81)

The Innate Immunity A (IIDA (81)) study section reviews applications involving fundamental aspects of innate immunity, with an emphasis on cell-based studies of the innate immune system and its regulation. Applications more focused on diseases with an immunologic component or addressing mammalian host-pathogen interactions from the perspective of the pathogen are generally reviewed in other study sections.

Topics:

- Development, differentiation, and function of innate immune cells, including dendritic cells, monocytes/macrophages, neutrophils, eosinophils, basophils, and mast cells. Innate and innate-like lymphoid cells are also considered.
- Fundamental immunobiology of antigen presentation and processing by dendritic cells, macrophages, Langerhans cells, B cells, and vascular cells etc.
- Role of myeloid cells in cytokine and anti-microbial compound production during the innate and adaptive immune response.
- Development and tissue adaptation of monocyte/macrophage lineage cells, such as tissue-resident macrophages.
- Regulatory myeloid cells such as myeloid-derived suppressor cells (MDSCs) and their role in adaptive immunity.
- Phagocytosis and autophagocytosis including phagosome, autophagosome, and phago-lysosome formation and processes.

Shared interests and overlaps:

There are shared interests with **Molecular and Structural Immunology (MSI)**. Applications focused on molecular signaling or structure/functional studies of immune molecules and receptors may be reviewed in **MSI**, whereas applications that focus on the development, differentiation, and immunobiology of innate immune cells may be reviewed in **IIDA (81)**.

There are shared interests with **Innate Immunity B (IIB)**. Applications that focus on an integrated innate immune response to pathogens or injury may be reviewed in **IIB**, whereas applications that focus on the immunobiology of innate immune cells may be reviewed in **IIDA (81)**.

There are shared interests with **Adaptive Immunity (AI)**. The impact of antigen presentation on adaptive immune responses, differentiation and activation of B and T lymphocytes, and regulatory functions of myeloid cells on adaptive immune responses may be reviewed in **AI**, whereas the fundamental cell biology of antigen presentation/processing and the role of myeloid cells in the immune responses, as well as the differentiation and activation of innate-like lymphocytes, may be reviewed in **IIDA (81)**.

There are shared interests with **Mechanisms of Autoimmunity (MAI)** and **Immune Mechanisms of Hypersensitivity and Allergy (IMHA)**. The immunopathologic consequences or failures of immunoregulation that lead to autoimmunity, hypersensitivity and allergy may be reviewed in **MAI** or **IMHA** respectively, whereas applications pertaining more to cell-based innate immune function may be reviewed in **IIDA (81)**.

There are shared interests with **Immunobiology of Transplantation and Alloimmunity (ITA)** in the cells and mechanism of innate response. Applications proposing to study innate immune cell function and innate immune mechanisms in relation to transplant tolerance and immunity may be reviewed in **ITA**. Applications focusing on cell-based innate immune function may be reviewed in **IIDA (81)**.

There are shared interests with the **Immunity and Host Defense (IHD)** study section. Applications focused on the protective innate immune response to a specific pathogen may be reviewed in **IHD**. Applications with a greater focus on the immunobiology of innate immune cells, irrespective of the tissue site, may be reviewed in **IIDA (81)**

There are shared interests with the **Bacterial Virulence (BV)**, **Bacterial-Host Interactions (BHI)**, **Viral Pathogenesis and Immunity (VPI)**, **Viral Dynamics and Transmission (VDT)**, and **Pathogenic Eucaryotes (PTHE)**. Applications associated with infectious disease virulence and pathological outcomes may be reviewed in one of the infectious agent-centric study sections, whereas applications with a greater focus on the innate immune cell processing of the infectious agent antigen may be reviewed in **IIDA (81)**.

There are shared interests with the **Digestive System Host Defense, Microbial Interactions and Immune and Inflammatory Diseases (DHMI)**, **Clinical Neuroimmunology and Brain Tumors (CNBT)**, **Hepatobiliary Pathophysiology (HBPP), Lung Immunology and Infection (LII**) and several study sections in the **Endocrine and Metabolic Systems (EMS)** branch. Applications addressing impacts of the adaptive immune system on the function and pathology relevant to diseases or disorders of specific organ systems may be reviewed in study sections focusing on those systems. Applications with a greater focus on fundamental aspects of the innate immune response may be reviewed in **IIDA (81) or IIB**.

Innate Immunity B - IIB

The Innate Immunity B (IIB) study section reviews applications involving fundamental aspects of innate immunity, with an emphasis on the integrated innate immune and inflammatory response to infection or injury. Applications more focused on diseases with an immunologic component or addressing mammalian host-pathogen interactions from the perspective of the pathogen are generally reviewed in other study sections.

Topics:

- Activation and regulation of the host innate immune and inflammatory response to pathogens or injury.
- Activation, recruitment, and effector functions of innate immune cells such as neutrophils, macrophages, monocytes, dendritic cells, and NK cells. Includes basic studies of innate-like lymphocytes involved in systemic and tissue-specific inflammation.
- Epithelial cell and innate lymphoid cell (ILC) responses to infection or injury, including production of antimicrobial peptides, cytokines, chemokines, tissue repair factors, and mucus.
- Effector molecules and their receptors such as adhesion molecules, cytokines, chemokines, lipid mediators, other autocoids, anti-microbial peptides.
- Inflammasome formation and activation, and production of effector molecules such as cytokines, chemokines, lipid mediators.
- Role of complement pathways in innate and inflammatory responses.
- Animal and in vitro models of innate immunity and inflammation; non-mammalian models and plant systems of innate immunity.
- Systems biology approaches to understand the activation and regulation of innate immune signaling.

Shared interests and overlaps:

There are shared interests with **Molecular and Structural Immunology (MSI)**. Applications that emphasize fundamental aspects of immune signaling biology, such as molecular structures and intracellular signaling cascades of pathways associated with innate immune receptors, may be reviewed in **MSI**. Applications that emphasize a more integrated signaling response between innate immune cells resulting from infection or injury may be reviewed in **IIB**.

There are shared interests with **Innate Immunity A (IIDA (81))**. Applications that focus on the immunobiology of innate immune cells may be reviewed in **IIDA (81)**, whereas applications that focus on an integrated innate immune response to pathogens or injury may be reviewed in **IIB**.

There are shared interests with **Adaptive Immunity (AI)**. Applications that focus on the impact of the innate immune system on the adaptive immune response may be reviewed in **AI**, whereas applications that focus on an integrated innate immune and/or inflammation response to infection or injury may be reviewed in **IIB**.

There are shared interests with **Mechanisms of Autoimmunity (MAI)** and **Immune Mechanisms of Hypersensitivity and Allergy (IMHA)**. The immunopathologic consequences or failures of immunoregulation that lead to autoimmunity, hypersensitivity and allergy may be reviewed in **MAI** or **IMHA** respectively, whereas applications more focused on basic innate immune mechanisms and inflammation may be reviewed in **IIB**.

There are shared interests with **Immunobiology of Transplantation and Alloimmunity (ITA)** in the cells and mechanisms of innate response and inflammation related to immune transplantation. Applications proposing to study innate immune cell function and innate immune mechanisms in relation to transplant tolerance and immunity may be reviewed in **ITA**. Applications focusing on basic innate immune mechanisms may be reviewed by **IIB**.

There are shared interests with **Immunity and Host Defense (IHD)** study section. Applications focused on the protective innate immune response to a specific pathogen may be reviewed in **IHD.** Applications with a greater focus on the innate immune response itself, irrespective of the immune stimulus, may be reviewed in **IIB**. Applications using in vitro and in vivo infectious disease animal and mammalian models to study protective innate immune responses may be reviewed in **IHD**, whereas applications using genetically tractable animal and non-mammalian models of innate immunity, such as drosophila and zebrafish, may be reviewed in **IIB**.

There are shared interests with the **Bacterial Virulence (BV)**, **Bacterial-Host Interactions (BHI)**, **Viral Pathogenesis and Immunity (VPI)**, **Viral Dynamics and Transmission (VDT)**, and **Pathogenic Eucaryotes (PTHE)**. Applications associated with infectious disease virulence and pathological outcomes may be reviewed in one of the infectious agent-centric study sections, whereas applications with a greater focus on innate immune signaling may be reviewed in **IIB**.

There are shared interests with the **Digestive System Host Defense, Microbial Interactions and Immune and Inflammatory Diseases (DHMI)**, **Clinical Neuroimmunology and Brain Tumors (CNBT)**, and **Hepatobiliary Pathophysiology (HBPP), Lung Immunology and Infection (LII**) and several study section in the **Endocrine and Metabolic Systems (EMS)** branch. Applications addressing impacts of the innate immune system on the function and pathology relevant to diseases or disorders of specific organ systems may be reviewed in study sections focusing on those systems. Applications with a greater focus on fundamental aspects of the innate immune response may be reviewed in **IIDA (81)** or **IIB**.

There are shared interests in mechanisms that regulate immune responses with **Cellular Signaling and Regulatory System (CSRS)**. Applications that emphasize intracellular signaling mechanisms related to propagation and attenuation of immune responses with respect to cellular physiology may be reviewed in **CSRS**. Applications that emphasize the immunological outcomes may be reviewed in **IIB.**

There are shared interests in age-related changes in the adaptive and innate immune systems with **Aging Systems and Geriatrics (ASG)**. Applications that emphasize age-related geriatric conditions/syndromes involving multi-systems and organs that include an immune component are reviewed in **ASG.** Applications that emphasize the impact of aging on the mechanistic pathways affecting immune cells and their molecular function (Immune aging) may be reviewed in **IIB**.

There are shared interests in inflammation with the **Atherosclerosis and Vascular Inflammation (AVI).** Applications that emphasize the inflammation of cardiovascular system may be reviewed in **AVI**. Applications that emphasize the basic aspects of innate immunity and inflammation may be reviewed in **IIB**.

Molecular and Structural Immunology - MSI

The Molecular and Structural Immunology (MSI) study section reviews applications that address immune cell signaling, transcriptional/epigenetic regulation of specific genes, and structural biology of immune cell proteins. Emphasis is on basic molecular mechanisms of immune cells and proteins, including intracellular signaling pathways and gene regulation, and applies to both the innate and adaptive arms of the immune system. Applications more focused on diseases with an immunologic component are generally reviewed in other study sections.

Topics:

- Signal transduction of immune cell receptors, cytokine and chemokine receptors, costimulatory molecules, Fc high and low affinity receptors, NK cell receptors, cell adhesion and migration receptors, pattern recognition receptors
- Epigenetic, transcriptional, post-transcriptional, translational, and post-translational regulation of individual genes involved in immune cell development, differentiation, or response to environmental signals or cytokines.
- Structural, biophysical, and biochemical studies of immune molecules such as antigen receptors, antigens, cytokine receptors, costimulatory molecules, Fc high and low affinity receptors, NK cell receptors, adhesion and migration receptors, MHC molecules.
- Basic studies on the structure and design of antibodies
- Basic molecular mechanisms of immune cells and proteins, including intracellular signaling pathways and gene regulation; applies to both the innate and adaptive arms of the immune system.
- Basic immunology studies on the genetic and epigenetic causes of inborn errors of immunity/primary immunodeficiencies.

Shared interests and overlaps:

There are shared interests with **Innate Immunity A (IIDA (81))** Applications that focus on the development, differentiation, and immunobiology of innate immune cells may be reviewed in **IIDA (81)**, whereas applications focused on molecular signaling or structure/functional studies of immune molecules and receptors may be reviewed in **MSI**.

There are shared interests with **Innate Immunity B (IIB)**. Applications that emphasize a more integrated signaling response between innate immune cells resulting from infection or injury may be reviewed in **IIB**. Applications that emphasize fundamental aspects of immune signaling biology, such as molecular structures and intracellular signaling cascades of pathways associated with innate immune receptors, may be reviewed in **MSI**.

There are shared interests with **Adaptive Immunity (AI)**. Applications that emphasize cellular or intercellular process related to adaptive immune system development, differentiation, function and molecular mechanisms underlying such biological processes may be reviewed in **AI**, whereas applications that emphasize molecular/structural, biophysical, biochemical, and signaling aspects of immune cells or proteins may be reviewed in **MSI**.

There are shared interests with the **Immunity and Host Defense (IHD)** and **Lung Immunology and Infection (LII)** study sections. Applications focused on the protective immune response to a specific pathogen may be reviewed in **IHD**, or **LII** if the immune response that leads to pathology is localized to the lung. Applications focused on the structural, biochemical and/or biophysical aspects of the immune response irrespective of the tissue site may be reviewed in **MSI**.

There are shared interests with **Anti-Infective Resistance and Targets (AIRT)** in antibody analyses. Applications that focus on antibodies as potential therapeutics may be reviewed in **AIRT**. Applications addressing all other aspects of immune responses may be reviewed in **MSI.**

There are shared interests in mechanisms that regulate immune responses with **Cellular Signaling and Regulatory System (CSRS)**. Applications that emphasize intracellular signaling mechanisms related to propagation and attenuation of immune responses with respect to cellular physiology may be reviewed in **CSRS**. Applications that address immune cell signaling, transcriptional/epigenetic regulation of specific genes, and structural biology of immune cell proteins may be reviewed in **MSI.**

There are shared interests with **Molecular Genetics (MG)** in the areas of gene regulation and expression. Applications that focus mainly on genetics, gene regulation, histone regulation and control, and epigenetics may be reviewed in **MG**, whereas applications that focus is on the immunological outcome of such studies may be reviewed in **MSI**.

There are shared interests with **Macromolecular Structure and Function A, B, C (MSFA, MSFB, MSFC)** in mathematical modeling, computational biology, and structure analyses. Applications that focus generally on macromolecule structure/function, bioinformatics, and computer modeling may be reviewed in **MSFA**, **MSFB**, or **MSFC**. Applications with a focus on the immunological outcome of such studies may be reviewed in **MSI**.

IIDB Branch Additions

Immune Mechanisms of Hypersensitivity and Allergy – IMHA

The Immune Mechanisms of Hypersensitivity and Allergy (IMHA) study section reviews applications based on hypersensitivity, allergy, and immune responses at mucosal sites, including lung, gastrointestinal tract, and skin, that are associated with allergic diseases, anaphylaxis, and asthma. Emphasis is on mechanistic immune-mediated disease studies that utilize human and/or animal models as well as in vitro systems, molecular, cellular, genomic and proteomic approaches.

Topics:

- Immunological mechanisms, both innate and adaptive, related to hypersensitivities and allergies, including the upper and lower gastrointestinal tract, upper and lower respiratory tract, and skin.
- Immunological mechanisms linked to allergic and non-allergic asthma, food and drug allergies, delayed type hypersensitivity, urticaria, atopic dermatitis, eosinophilic gastrointestinal disorders, sinusitis, eosinophilic pneumonia, hypersensitivity pneumonitis and primary immunodeficiency related hypersensitivity.
- Functional contributions of various cell types involved in hypersensitivities and allergies, including mast cells, eosinophils, basophils, ILCs, T cells, B cells, antigen presenting cells (DCs, macrophages, monocytes), and epithelial cells and the impact of immunoglobins and various augmenting/regulatory factors on the activities of these cells.
- Studies addressing immune mechanisms using animal models, immune epitope discovery, and/or immune and multiomic methods, readouts and endpoints related to hypersensitivities and allergies.
- Immunological and immunogenetic analyses of human subjects and cohorts associated with allergic diseases, asthma and/or mucosal responses.
- Immunological examination of dysregulation or homeostasis, linking mucosal immune responses with the microbiome related to hypersensitivities and allergies.
- Studies examining the early-stage development of therapies for immune modulation of allergic disease.
- Studies of environmental factors involved in triggering and stimulating hypersensitivities and allergies such as pollutants, irritants, and natural allergens.

Shared interests and overlaps:

There are shared interests with **Innate Immunity A (IIDA (81))**, **Innate Immunity B (IIB)**, and **Adaptive Immunity (AI)**. Fundamental molecular processes and functions that pertain to immune system regulation and response, including those at mucosal borders, may be reviewed in **IIDA (81)**, **IIB**, or **AI**. The immunopathologic consequences or failures of immunoregulation that lead to hypersensitivity and allergy may be reviewed in **IMHA**.

There are shared interests with **Immunity and Host Defense (IHD)** in immune responses to microbes. Applications involving host responses to infectious agents, including applications that focus on how changes in the microbiome may affect a protect response to an infectious agent, may be reviewed in **IHD**, whereas applications involving innate or adaptive immune responses to environmental factors such as the microbiome and non-pathogenic molecules, in the context of hypersensitivities and allergic diseases may be reviewed in **IMHA**. Applications that investigate infectious microbes that initiate or exacerbate allergy/asthma may also be reviewed in **IMHA**.

There are shared interests with **Lung Immunology and Infection (LII)** in immune responses in the lung. Applications investigating viral induced hypersensitivity responses and ABPA may be reviewed in **LII**, whereas applications studying immune mechanisms and/or responses, either innate or adaptive, in the context of upper and lower respiratory tract-related hypersensitivities and allergic diseases (e.g., allergic asthma and chronic rhinosinusitis) may be reviewed in **IMHA.** In addition, applications focused on the microbiome which reside/originate within, or otherwise impact, the lung may be reviewed in **LII,** but those that investigate the role of

the lung resident microbiome in the modulation of hypersensitivities and allergies localized to this organ will be reviewed in **IMHA.**

There are shared interests with **Pulmonary Injury Remodeling and Repair (PIRR)**. Applications focused more generally on aspects of lung physiology and function may be reviewed in **PIRR**, whereas applications studying immune mechanisms and/or responses, either innate or adaptive, in the context of upper and lower respiratory tract-related hypersensitivities and allergic diseases (e.g., allergic asthma and chronic rhinosinusitis) may be reviewed in **IMHA**.

There are shared interests with **Skin and Connective Tissue Science (SCTS)** in skin and connective tissue-associated immune responses. Applications with a focus on the biology, physiology, development and homeostasis of the skin and skin appendages may be reviewed in **SCTS**, whereas applications studying immune cells, immune mechanisms and/or responses, either innate or adaptive, in the context of skin-associated hypersensitivities, allergic diseases (e.g., atopic dermatitis) may be reviewed in **IMHA**. Applications that focus on skin-localized microbiome homeostasis may be reviewed in **SCTS**, whereas those that focus on the role of the microbiome in the modulation of skin-associated hypersensitivities and allergies may be reviewed in **IMHA**.

There are shared interests with **Digestive System Host Defense, Microbial Interactions and Immune and Inflammatory Diseases (DHMI)** in the immune responses in the gastrointestinal tract. Applications emphasizing non-allergic responses in the context of acute and chronic gastrointestinal conditions, such as celiac disease, gastritis, or necrotizing enterocolitis may be reviewed by **DHMI**. Applications studying immune cells, immune mechanisms and/or responses, either innate or adaptive, in the context of hypersensitivities and allergic diseases in the gastrointestinal tract, e.g., eosinophilic gastrointestinal disorders or food allergies, may be reviewed in **IMHA**.

There are shared interests with the **Translational Investigations of Pulmonary and Immunological Diseases (RCCS (81))**. Applications that propose preclinical translational research and clinical trials, including those focusing on interventions to investigate immune-mediated disorders such as hypersensitivities and allergy may be reviewed by **RCCS (81)**. Applications investigating molecular and cellular mechanisms associated with allergy and hypersensitivities involving animal models, human specimens and/or data, or studies with human participants that do not meet the definition of a clinical trial may be reviewed in **IMHA**.

Immunobiology of Transplantation and Alloimmunity – ITA

The Immunobiology of Transplantation and Alloimmunity (ITA) study section reviews applications related to the mechanisms of rejection, strategies to prevent rejection and induction of immune tolerance to transplanted tissues, biologics, organ and cellular allografts, hematopoietic stem cells, and during pregnancy. The areas of focus include human and/or animal studies of transplantation immunology, mechanisms of acquired immune tolerance and rejection and early-stage development of immune modulation to promote tolerance.

Topics:

- Studies focused on the immune response to transplanted: tissues, biologics, organ, and cellular allografts, as well as hematopoietic stem cells.
- Research investigating the immune mechanisms underlying the activities of immunosuppressive regimens and associated complications. This would include studies focusing on infections in the context of transplant immunosuppression and their impact on transplant outcomes.
- Immune mechanisms of rejection and therapies for the prevention of rejection.
- Studies focusing on the immune mechanisms of transplant tolerance and strategies for tolerance induction. This would include pre-transplant therapeutic strategies and adoptive cell therapies for transplant.
- Immune mechanisms of development and strategies for prevention of graft vs. host disease (GVHD). In the context of bone marrow transplant, this would include promotion of graft vs. tumor/leukemia (GVT/GVL) effects.
- Studies focusing on the mechanisms of immune tolerance during pregnancy.
- Mechanisms of alloactivation, including innate and adaptive immunity, activation of alloreactive T cells and B cell, NK cells and antigen presenting cells and myeloid cells.

Shared interests and overlaps:

There are shared interests with **Innate Immunity A (IIDA (81))**, **Innate Immunity B (IIB)**, and **Adaptive Immunity (AI)**. Fundamental processes and functions that pertain to immune system regulation and response may be reviewed in **IIDA (81)**, **IIB**, or **AI**. Applications proposing to study immunoregulatory processes related to transplantation, transplant tolerance, and immunity may be reviewed in **ITA**.

There are shared interests with **Immunity and Host Defense (IHD).** Applications that focus on understanding immune responses to an infectious agent may be reviewed in **IHD**, whereas applications that focus on understanding the impact of infection with a focus on transplant outcomes (e.g., acute or chronic rejection, tolerance, donor-specific antibodies, allograft biopsies, biomarkers) may be reviewed in **ITA**. Applications investigating maternal/neonatal immune responses to microbes may be reviewed by **IHD**, whereas those investigating the mechanisms of immune tolerance during pregnancy may be reviewed in **ITA**.

There are shared interests with the **Mechanisms of Autoimmunity (MAI)** regarding diseases that affect induction, maintenance and breaking of immune tolerance. Applications focused on immune tolerance to understand the pathogenesis and prevention of autoimmunity may be reviewed by **MAI**. Applications proposing to study tolerance mechanisms and autoimmunity in relation to transplantation may be reviewed in **ITA**.

There are shared interests with **Surgery, Anesthesiology, and Trauma (SAT)** in transplantation. Applications proposing to study tissue and organ injury unrelated to immunology may be reviewed in **SAT**. Applications focusing on addressing the immune mechanisms of, and immune responses to, transplant injury, and immune modulation to improve transplantation outcomes may be reviewed in **ITA**.

There are shared interests with **Cellular Immunotherapy of Cancer (CIC)** in transplantation and graft vs. host disease in the context of hematopoietic stem cell transplantation. Applications that focus on hematopoietic stem

cell transplantation as a part of cancer treatment and the immune toxicities associated with graft vs. host disease may be reviewed in **CIC**. Applications that focus on basic transplantation immunology and immune mechanisms of development and strategies for prevention of graft vs. host disease may be reviewed in **ITA**; applications that include the promotion of graft vs. tumor effects may also be reviewed in **ITA**.

There are shared interests in kidney transplantation with **Kidney and Urological Systems Function and Dysfunction (KUFD)**. Applications that focus on organ transport and preservation, transport and viability for transplantation including ischemia/reperfusion injury may be reviewed in **KUFD**. Applications with a greater focus on mechanisms including treatment of allograft rejection may be reviewed in **ITA**.

There are shared interests with **Pregnancy and Neonatology (PN)**. Applications addressing the maternal/fetal immune-tolerance mechanisms related to the physiology of pregnancy and placental development, parturition, and fetal/neonatal development may be reviewed in **PN**. Applications addressing the mechanisms of immune tolerance towards allogeneic fetal antigens, during early stages of pregnancy, and applications dealing with immune system development in the offspring may be reviewed in **ITA**.

There are shared interests with **Vaccines Against Infectious Diseases (VID)**. Applications that focus on general approaches to understand and improve the performance of existing vaccines, and/or immune responses to vaccines, may be reviewed in **VID**. Applications that focus on the impact of immunosuppressive therapies on immune responses to vaccine and/or vaccine performance may be reviewed in **ITA**.

There are shared interests with **Translational Investigations of Pulmonary and Immunological Diseases (RCCS (81))**. Applications that propose preclinical translational research and clinical trials, including those focusing on interventions in the context of transplantation, may be reviewed in **RCCS (81)**. Applications that involve animal models, human specimens and/or data, or studies with human participants that do not meet the definition of a clinical trial to study the immunology of transplantation such as the mechanisms that lead to tolerance or rejection may be reviewed in **ITA**.

Mechanisms of Autoimmunity – MAI

The Mechanisms of Autoimmunity (MAI) study section reviews applications that address basic and clinically related immunological mechanisms of failed self-tolerance in the context of autoimmunity. Studies can be conducted in both human and/or animal models as well as in vitro systems, using molecular, cellular, genomic and proteomic approaches.

Topics:

- Immunological processes related to organ specific and systemic autoimmune diseases, including autoimmune diseases of the nervous system, skin, endocrine, hematologic, lungs and rheumatic diseases. Diseases of interest include systemic lupus erythematosus, Sjögren's syndrome, multiple sclerosis, type I diabetes, autoimmune arthritis, idiopathic inflammatory myopathies, psoriasis, sarcoidosis, and primary immunodeficiency related hypersensitivity.
- Environmental and genetic factors involved in immune pathway triggers and autoimmunity.
- Maintenance and breakage of central tolerance, peripheral tolerance and immune homeostasis leading to the development of autoimmunity.
- Strategies for reestablishing a normal immune balance for treatment of autoimmune diseases.

Shared interests and overlaps:

There are shared interests with **Innate Immunity A (IIDA (81))**, **Innate Immunity B (IIB)**, and **Adaptive Immunity (AI)**. Fundamental processes and functions that pertain to immune system regulation and response may be reviewed in **IIDA (81)**, **IIB**, or **AI**. The immunopathologic consequences or failures of immunoregulation that lead to autoimmunity may be reviewed in **MAI**.

There are shared interests with **Lung Immunology and Infection (LII)**. Applications focused on the immunological response to pathogen invasion in the lung may be reviewed in **LII**, whereas lung complications associated with an autoimmune or rheumatic disease may be reviewed in **MAI**.

There are shared interests with **Skin and Connective Tissue Science (SCTS)** in skin and connective tissue-associated immune responses. Applications with focus on the pathophysiology of the skin, skin appendages and connective tissue in the context of autoimmune disease may be reviewed in **SCTS**. Applications studying immune cells, immune mechanisms and/or responses, either innate or adaptive, in the context of skin-associated autoimmunity may be reviewed in **MAI**.

There are shared interests with **Immunobiology of Transplantation and Alloimmunity (ITA)** regarding diseases that affect induction, maintenance and breaking of immune tolerance. Applications proposing to study tolerance mechanisms and autoimmunity in relation to transplantation may be reviewed by **ITA**. Applications focused on immune tolerance to understand the pathogenesis and prevention of autoimmunity may be reviewed by **MAI**.

There are shared interests with **Clinical Neuroimmunology and Brain Tumors (CNBT)**, **Behavioral Neuroendocrinology, Neuroimmunology, Rhythms and Sleep (BNRS)**, and **Cellular and Molecular Biology of Glia (CMBG)**. Applications examining neural tissue and processes associated with neural diseases may be reviewed in **CNBT**, **BNRS** or **CMBG**, whereas applications that focus on autoimmune mechanisms of neurologic damage may be reviewed in **MAI**.

There are shared interests with **Basic Mechanisms of Diabetes and Metabolism (BMDM)** regarding immune modulation of adipocytes, islet cell function, and diabetes. Applications focused on immune cell modulation of pancreatic islet cell function, molecular alterations of islet cells contributing to diabetes etiopathogenesis and pathobiology (e.g., type 1 diabetes) may be reviewed by **BMDM**, whereas those focused on understanding immune cell function and regulation related to type 1 diabetes onset may be reviewed in **MAI**.

There are shared interests with **Translational Investigations of Pulmonary and Immunological Diseases (RCCS (81))**. Translational research that uses study cohorts and clinical trial platforms to examine strategies to prevent and/or ameliorate autoimmune disease may be reviewed in **RCCS (81)**, whereas applications that address immunological mechanisms of failed self-tolerance in the context of autoimmunity that use human and/or animal models as well as in vitro systems, molecular, cellular, genomic and proteomic approaches may be reviewed in **MAI**.

RCCS Branch Additions

Lung Immunology and Infection - LII

The Lung Immunology and Infection (LII) study section reviews applications which address the regulation/dysregulation of host responses in the lung to interactions with microbial communities, including viral, bacterial (including host microbiome), and fungal. Diseases of interest include respiratory viral infections, bacterial pneumonia, secondary infections associated with Cystic Fibrosis (CF), and Allergic Bronchopulmonary Aspergillosis (ABPA). Applications more focused on the non-infectious causes of lung pathology are generally reviewed in other study sections.

Topics include:

- In vitro and animal studies of host innate response (cytokine, alarmin, mucin) responses to viral infection and impacts on lung remodeling.
- Effect of viral infections on regulation of mucins, cellular plasticity/transition, or goblet cell metaplasia.
- Effects of bacterial infections on pulmonary immunity, remodeling and/or susceptibility to subsequent infections.
- Analysis of the content and changes in microbiome communities/homeostasis (such as but not limited to gut or lung) on innate or pulmonary immune responses.
- Fungal-host interactions, mechanisms of control of fungal infections or determinants of fungal invasiveness.

Shared interests and overlaps:

There are shared interests with **Pulmonary Injury Remodeling and Repair (PIRR)**. Environmental, idiopathic, and non-infectious fibrosis in the lung may be reviewed in **PIRR**, whereas applications focused on pathogen-induced fibrotic response and lung injury and remodeling may be reviewed in **LII**.

There are shared interests with **Translational Investigations of Pulmonary and Immunological Diseases (RCCS (81))** regarding pulmonary diseases. While **LII** may review basic and physiological topics related to aspects of lung immunology and infection, those which propose clinical trials may be reviewed in **RCCS (81)**.

There are shared interests with **Pulmonary Vascular Disease and Physiology (PVP).** Applications focused on pulmonary vascular disorders may be reviewed in **PVP**, whereas applications focused on host inflammatory responses associated with lung function may be reviewed in **LII.**

There are shared interests with **Immunity and Host Defense (IHD)**. While both study sections review applications focused on innate and adaptive immune responses to a wide variety of pathogens, **LII** reviews applications that involve the pathological and functional consequences of pulmonary immune responses to infection, while **IHD** review applications more focused on studying immune host defense responses against pulmonary infections.

There are shared interests with **Molecular and Structural Immunology (MSI).** Applications focused on the structural, biochemical and/or biophysical aspects of the immune response irrespective of the tissue site may be reviewed in **MSI**. Applications focused on the protective immune response that leads to pathology is localized to the lung in **LII.**

There are shared interests with **Adaptive Immunity (AI), Innate Immunity A (IIDA (81)),** and **Innate Immunity B (IIB)**. Applications with a greater focus on fundamental aspects of the adaptive immune response or innate immune response may be reviewed in **AI** or **IIDA (81)/IIB**, respectively. Applications addressing impacts of the adaptive immune system on the function and pathology of the lung or lung disease may be reviewed in **LII**.

There are shared interests with **Mechanisms of Autoimmunity (MAI)**. Applications focused on lung complications associated with an autoimmune or rheumatic disease may be reviewed in **MAI**, whereas applications focused on the immunological response to pathogen invasion in the lung may be reviewed in **LII**.

There are shared interests with **Immune Mechanisms of Hypersensitivity and Allergy (IMHA)** in immune responses in the lung. Applications focused on immune mechanisms and/or responses, either innate or adaptive, in the context of upper and lower respiratory tract-related hypersensitivities and allergic diseases (e.g., allergic asthma and chronic rhinosinusitis) may be reviewed in **IMHA**, whereas viral induced hypersensitivity responses and ABPA may be reviewed in **LII**. In addition, applications focused on the microbiome which reside/originate within, or otherwise impact, the lung may be reviewed in LII, but those that investigate the role of the lung resident microbiome in the modulation of hypersensitivities and allergies localized to this organ will be reviewed in IMHA.

There are shared interests with **Molecular and Cellular Biology of Virus Infection (MCV)**, **Viral Pathogenesis and Immunity (VPI)**, and **Viral Dynamics and Transmission (VDT)**. Applications focused on molecular mechanistic models of virus infection or pathogenesis and immunity emphasizing the virological perspective may be reviewed in **MCV**, **VPI**, or **VDT**. Applications addressing virus-host immune or inflammatory interactions in the lung may be reviewed in **LII**.

There are shared interests with **Bacterial Virulence (BV)** and **Bacterial-Host Interactions (BHI)**. Applications focused on molecular mechanistic models of bacterial infection or pathogenesis and immunity emphasizing the bacterial perspective may be reviewed in **BV** or **BHI**. Applications addressing bacterial-host immune or inflammatory interactions in the lung may be reviewed in **LII**.

Pulmonary Injury Remodeling and Repair - PIRR

The Pulmonary Injury Remodeling and Repair (PIRR) study section reviews applications which center upon aspects of lung physiology and function; applications typically involve cellular and/or *in vivo* systems. Applications may address aspects of non-infectious acute and chronic lung/airway injury and related diseases.

Topics:

- Basic lung cell physiology, typically in the context of injury and repair. Topics may focus on airway epithelial cell biology, including the regulation of secretion of mucins, control of cilia, and development of goblet cell metaplasia; Resolution, repair, remodeling and/or fibrosis which involve studies conducted in cellular and/or *in vivo* models of lung injury/repair – may include the effects of injury on alveolar epithelial cells (AEC) remodeling, cell state transition, goblet cell metaplasia and/or extracellular matrix turnover.
- Lung diseases and syndromes, generally involving disrupted pulmonary function. Conditions may include, but are not limited to, Acute Lung Injury (ALI); Acute Respiratory Distress Syndrome (ARDS); Bronchopulmonary Dysplasia (BPD); Chronic Obstructive Pulmonary Disease (COPD); Pulmonary fibrosis (PF). For proposed studies focused on Lymphangioleiomyomatosis (LAM), PIRR evaluates those which explore the consequences of LAM growth, those which result in dysregulated lung function and respiratory failure caused by lung tissue injury/destruction.
- Fibrosing lung diseases: Role of stem cells, mesenchymal cells, epithelial dysfunction/senescence or homeostasis or alveolar macrophages; fibrosis in granulomatous diseases (sarcoid), idiopathic pulmonary fibrosis and ILD; pleural disease, and other forms of structural lung disease.
- Physiological responses in the respiratory tract, including conditions which involve immune cells, immune mechanisms and/or responses involving Airway/lung pathology. Studies may explore Airway epithelial cells, Airway smooth muscle, adrenergic agonists and receptors, surfactant proteins, and genetic predisposition in the context of chronic bronchitis, or chronic obstructive pulmonary disease (COPD).

Shared interests and overlaps:

There are shared interests with **Lung Immunology and Infection (LII)**. Pathogen-induced fibrotic response and lung injury and remodeling may be reviewed in **LII**, whereas those focused on environmental, idiopathic, and non-infectious fibrosis in the lung may be reviewed in **PIRR**.

There are shared interests with **Pulmonary Vascular Disease and Physiology (PVP)**. Applications focused on respiratory physiology, genetics, biophysics, biomechanics, and imaging of the lung may be reviewed in **PVP**, whereas applications involving the study of cellular and molecular mechanisms of lung injury and repair may be reviewed in **PIRR**.

There are shared interests with **Translational Investigations of Pulmonary and Immunological Diseases (RCCS (81))** regarding pulmonary diseases**.** While **PIRR** will evaluate basic or physiological topics in the lung, applications which propose to create novel experimental systems to model human lung diseases may be reviewed in **RCCS (81)**.

There are shared interests with **Immune Mechanisms of Hypersensitivity and Allergy (IMHA)**. Applications studying immune mechanisms and/or responses, either innate or adaptive, in the context of upper and lower respiratory tract-related hypersensitivities and allergic diseases (e.g., allergic asthma and chronic rhinosinusitis) may be reviewed in **IMHA**. Applications focused more generally on aspects of lung physiology and function may be reviewed in **PIRR**.

There are shared interests with **Surgery, Anesthesiology, and Trauma (SAT)**. Applications involving the study of systemic injury and responses to sepsis may be reviewed in **SAT**. Applications associated with acute lung injury

(ALI) caused by sepsis, those focused on the mechanisms underlying the pathogenesis of ALI, and development of stem cell-based and pharmacological approaches for treatment may be reviewed in **PIRR**.

There are shared interests with cancer-related study sections in the **Basic and Translational Cancer (BTC)**, **Cancer Therapeutics (CTH)**, and **Cancer Diagnosis, Prevention and Therapeutics (CDPT)** review branches. Applications focused on basic mechanisms of LAM tumor/neoplasm initiation and progression, including metastasis/homing of LAM cells from extrapulmonary origin to the lung may be reviewed in **BTC**. Applications focused on therapeutic approaches to treating LAM, including the use cancer-based strategies (e.g., immunotherapy) may be reviewed in **CTH** or **CDPT**. Applications addressing mechanisms of lung tissue injury/destruction resulting from infiltration and growth of LAM cells, leading to dysregulation of lung function and respiratory failure may be reviewed in **PIRR**.

There are shared interests with bioengineering-related study sections, namely **Bioengineering, Technology, and Surgical Sciences (BTSS)** and **Biomaterials and Biointerfaces Study Section (BMBI)**. Applications involving early stages of development of these strategies and technologies may be reviewed in **BTSS** or **BMBI**, whereas applications focused on lung tissue engineering that involve validation of bioengineering strategies for lung repair and regeneration may be reviewed in **PIRR**.

There are shared interests with **Cellular Mechanisms in Aging and Development (CMAD)**. Applications focused on cell senescence, proteostasis, and tissue repair and regeneration in the context of aging may be reviewed in **CMAD**. Applications focused on molecular and cellular mechanisms of chronic lung diseases linked to aging, such as COPD and pulmonary fibrosis, may be reviewed in **PIRR**.

There are shared interests with **Development-1 (DEV 1)**. Applications addressing early embryonic development may be reviewed in **DEV1**. Developmental biology applications focused on embryonic and postnatal lung development may be reviewed in **PIRR**.

There are shared interests with **Pregnancy and Neonatology (PN)**. Fetal biology and neonatology applications may be reviewed in **PN**. Applications which focus on fetal and postnatal lung development and lung diseases associated with a defect in lung development, such as BPD, may be reviewed in **PIRR**.

There are shared interests in lung injury with **Environmental Determinants of Disease (EDD)**. Applications that emphasize lung toxicology (such as particulate AI pollutants, tobacco, cannabis, and/or vaping) may be reviewed in **EDD**. Applications that address adverse effects of environmental or other toxicants on the lung in the context of lung development, lung injury/repair, emphysema, and interstitial lung diseases such as sarcoidosis and asbestosis may be reviewed in **PIRR**.

Pulmonary Vascular Disease and Physiology - PVP

The Pulmonary Vascular Disease and Physiology (PVP) study section reviews integrative research involving pulmonary vascular biology and disease, respiratory biophysics and biomechanics, neural control of breathing, and upper airway physiology. Methods may include molecular and cellular approaches, normal and genetically modified animal models, human subjects, and mathematical modeling. Emphasis is on physiologic, integrative, and translational approaches, including combining model simulations with experiments, interactions between and across tissues and cell types, and hierarchical approaches that link micro- and macro-level responses.

Topics:

- Pulmonary vascular biology, including angiogenesis, normal and abnormal endothelial and vascular smooth muscle cell biology, and mechanisms of vasoreactivity, barrier function of the vascular cells in relation to lung fluid balance.
- Pulmonary vascular disease, including pulmonary hypertension, lung injury when the focus is on vascular function, and the involvement of reactive oxygen and nitrogen species as well as hypoxia in these processes.
- Respiratory biophysics, biomechanics, and imaging of the lung and chest wall, including mechanical ventilation, application of imaging techniques, aerosol inhalation, gas transport, disordered breathing and obstructive sleep apnea.

Shared Interests and Overlaps

There are shared interests with **Pulmonary Injury, Repair, and Remodeling (PIRR)**. Applications involving the study of cellular and molecular mechanisms of lung injury and repair may be reviewed in **PIRR**, whereas applications focused on respiratory physiology, genetics, biophysics, biomechanics, and imaging of the lung may be reviewed in **PVP**.

There are shared interests with **Lung Immunology and Infection (LII)**. Applications focused on host inflammatory responses associated with lung function may be reviewed in **LII**, whereas applications focused on pulmonary vascular disorders may be reviewed in **PVP**.

There are shared interests with **Translational Investigations of Pulmonary and Immunological Diseases (RCCS (81)).** While **PVP** will evaluate basic or physiological topics related to vascular conditions and diseases, studies which are patient-oriented and/or include clinical trials may be reviewed in **RCCS (81)**.

There are shared interests with **Integrative Myocardial Physiology/Pathophysiology A (MPPA)**. Studies of pulmonary conditions which focus on models of right ventricular heart failure may be reviewed in **MPPA**, whereas applications which generally focus on pulmonary conditions, including pulmonary hypertension, may be reviewed in **PVP**.

Translational Investigations of Pulmonary and Immunological Diseases – ZRG1 RCCS (81)

The Translational Investigations of Pulmonary and Immunological Diseases (RCCS (81)) study section reviews applications involving human subjects and pre-clinical experimental model systems. Applications may include clinical, pre-clinical and translational research on topics which center upon pulmonary diseases and immune-mediated conditions and diseases. Research may use study cohorts or phase 0, 1 and 2, or single center phase 3 clinical trial platforms; and they may involve multiomic analyses, Electronic medical record (EMR) -related studies and biomarker identification, verification, and validation.

Topics:

- Human clinical trials generally centered upon mechanisms and consequences of respiratory conditions and diseases, including pediatric populations. Investigations may involve respiratory imaging and may include physiology, pharmacology, electrophysiology, respiratory mechanics, biomarker discovery, and genetics/omics studies.
- Human clinical trials investigating autoimmune diseases, immunological mechanisms and responses in the context of transplantation, and immune-mediated diseases including hypersensitivities and allergies.
- Clinical and pre-clinical studies involving assessment of immune and pulmonary responses to pharmacologic or biologic interventions or challenges.
- Biomarker discovery, development and/or validation for use in wide-ranging studies, including utility in tracking disease/therapeutic progression, and responses in human and pre-clinical populations.
- Identification of molecular phenotypes/endotypes in human populations by integration of multiomics studies for interventional, observational or use of Electronic Medical Record (EMR).
- Longitudinal studies examining disease initiation, exacerbation, or progression of respiratory or immunological conditions or diseases.
- Preclinical efficacy studies leading to clinical trials for therapeutics, diagnostics, including new devices.

Shared Interests and Overlaps:

There are shared interests with **Lung Immunology and Infection (LII)** and **Pulmonary Vascular Disease and Physiology (PVP)** regarding pulmonary diseases. While **LII** may review basic and physiological topics related to aspects of lung immunology and infection, those which propose clinical trials may be reviewed in **RCCS (81)**. While **PVP** will evaluate basic or physiological topics related to vascular conditions and diseases, studies which are patient-oriented and/or include clinical trials may be reviewed in **RCCS (81)**.

There are shared interests with **Pulmonary Injury Remodeling and Repair (PIRR)** regarding pulmonary diseases. While **PIRR** will evaluate basic or physiological topics in the lung, applications which propose to create novel experimental systems to model human lung diseases may be reviewed in **RCCS (81)**.

There are shared interests with **Mechanisms of Autoimmunity (MAI)**. Applications that address immunological mechanisms of failed self-tolerance in the context of autoimmunity that use human and/or animal models as well as in vitro systems, molecular, cellular, genomic and proteomic approaches may be reviewed in **MAI**. Translational research that uses study cohorts and clinical trial platforms to examine strategies to prevent and/or ameliorate autoimmune disease may be reviewed in **RCCS (81)**.

There are shared interests with the **Immune Mechanisms of Hypersensitivity and Allergy (IMHA)**. Applications investigating molecular and cellular mechanisms associated with allergy and hypersensitivities involving animal models, human specimens and/or data, or studies with human participants that do not meet the definition of a clinical trial may be reviewed in **IMHA**. Applications that propose preclinical translational research and clinical

trials, including those focusing on interventions which investigate immune-mediated disorders such as hypersensitivities and allergy may be reviewed by **RCCS (81)**.

There are shared interests with **Immunobiology of Transplantation and Alloimmunity (ITA)**. Applications which involve animal models, human specimens and/or data, or studies with human participants that do not meet the definition of a clinical trial to study the immunology of transplantation such as the mechanisms that lead to tolerance or rejection may be reviewed in **ITA**. Applications that propose preclinical translational research and clinical trials, including those focusing on interventions in the context of transplantation, may be reviewed in **RCCS (81)**.

There are shared interests in respiratory conditions with **Cardiovascular and Respiratory Diseases (CRD)**. Applications which emphasize the distribution and determinants of respiratory diseases conditions in human subpopulations with an epidemiological approach may be reviewed in **CRD**, whereas applications that use a more patient-oriented approach to study pulmonary diseases may be reviewed in **RCCS (81)**.

There are shared interests with **Clinical Data Management and Analysis (CMDA)** regarding the topic of electronic medical records (EMR). Applications which propose to generate EMR may be reviewed in **CDMA**, whereas the use of EMR to generate patient or disease profiles associated with respiratory or immune-related conditions may be reviewed in **RCCS (81)**.

MSOS Branch Additions

Skin and Connective Tissue Sciences - SCTS

The Skin and Connective Tissue Sciences (SCTS) study section reviews basic and clinical research applications dealing with the biology and diseases of skin and connective tissue. Both human and/or animal models as well as in vitro systems, molecular, cellular, genomic and proteomic approaches are used to address these questions.

Topics:

- Biology and physiology of the skin and connective tissue, including extracellular matrix, microvasculature, and innervation.
- Biology and physiology of skin appendages such as hair follicle, sebaceous and sweat glands.
- Structure and function of dermis and epidermis; skin barrier function, regulation, and transdermal drug delivery.
- Skin development, skin stem cells, skin homeostasis and aging.
- Melanocyte biology and skin pigmentation.
- Hereditary, inflammatory, and degenerative diseases of skin and connective tissues.
- Disorders of skin and its appendages, including genetic, inflammatory, hyperproliferative, pre-neoplastic, blistering, and fibrotic disorders; systemic diseases with major cutaneous involvement, including atopic dermatitis, ichthyosis, keloids, fibrosis, pseudoxanthoma elasticum, and bullous diseases.
- Mechanisms of skin injury, fibrosis and repair and the associated immune responses; skin wound healing, diabetic and pressure ulcers.
- Pruritus and its mechanisms.
- Stem cell-based therapies for skin and connective tissue diseases.
- Skin interactions with the environment: UV and photobiology of the skin and their effects on skin biology.
- Skin microbiome and homeostatic responses.
- Skin microbial and fungal infection. Immune cell responses to infectious organisms in the skin.

Shared interests and overlaps:

There are shared interests with **Musculoskeletal Tissue Engineering (MTE)** in the investigation of skin repair. Applications that focus on tissue engineering aspects of skin repair and wound healing may be reviewed in **MTE**. Applications focusing on the biology and physiology of skin repair and wound healing may be reviewed in **SCTS**.

There are shared interests with **Mechanisms of Autoimmunity (MAI)** in skin and connective tissue-associated immune responses. Applications studying immune cells, immune mechanisms and/or responses, either innate or adaptive, in the context of skin-associated autoimmunity may be reviewed in **MAI**. Applications with focus on the pathophysiology of the skin, skin appendages and connective tissue in the context of autoimmune disease may be reviewed in **SCTS**.

There are shared interests with **Immune Mechanisms of Hypersensitivity and Allergy (IMHA)** in skin and connective tissue-associated immune responses. Applications studying immune cells, immune mechanisms and/or responses, either innate or adaptive, in the context of skin-associated hypersensitivities, allergic diseases (i.e. atopic dermatitis) may be reviewed in **IMHA**. Applications with a focus on the biology, physiology, development and homeostasis of the skin and skin appendages may be reviewed in **SCTS**. Applications that focus on the role of the microbiome in the modulation of skin-associated hypersensitivities and allergies may be reviewed in **IMHA**, whereas applications that focus on skin-localized microbiome homeostasis may be reviewed in **SCTS**.

There are shared interests with **Surgery, Anesthesiology and Trauma (SAT)** in the investigation of skin and integument wound healing and tissue regeneration. Applications that focus on tissue/organ regeneration, and

remodeling of damaged tissues, and novel therapeutic interventions for maintenance or restoration of tissue function may be assigned to **SAT**. Applications that focus on biology, physiology, development and homeostasis of the skin, and skin disorders including genetic, inflammatory, hyperproliferative, pre-neoplastic, blistering, and fibrotic disorders may be assigned to **SCTS**.

There are shared interests with **Radiation Therapeutics and Biology (RTB)** in studying molecular and cellular events leading to UV-induced skin photobiology and carcinogenesis. Applications that focus on UV-induced skin carcinoma and melanoma development may be reviewed in **RTB**. Applications that focus on UV-induced photobiology of the skin and cellular factors and signaling pathways in keratinocytes and melanocytes may be reviewed in **SCTS**.

There are shared interests with **Immunity and Host Defense (IHD)** in the investigation of immune responses to skin infections. Applications focused on studying immune host defense against skin infections may be reviewed in **IHD.** Applications focused on the pathological consequences of immune responses to skin infections may be reviewed in **SCTS**.