The Department of Immunology is Born
A visionary idea becomes reality

FACULTY-LEVEL DISCUSSIONS
begin at the University of Manitoba to create an Immunology program, sub-department or department.

CONCOMITANT DISCUSSIONS
are held with immunologists at the Walter and Eliza Hall Institute, Melbourne, Australia, the Basel Institute for Immunology, Switzerland and McGill University, Montreal about creating an academic unit.

CONSTRUCTION STARTS
on the Basic Medical Sciences Building, Bannatyne Campus

NEGOTIATIONS CONCLUDE
between Dr. Sehon, McGill University and the University of Manitoba to finalize an agreement to establish Canada's first Department of Immunology

Construction begins for the temporary Immunology Annex building

5 faculty members, 30 students and technical staff move from Montreal to establish the Department of Immunology at the University of Manitoba


Alec Sehon Eduardo Centano (L) with J. Diment Brian Carter Edris Sabbadini Arnold Froese (L) & Kenneth Kelly
The ‘70s – A Decade of Firsts
Creating the foundations

BUILDING A GRADUATE PROGRAM
A 2 year process to establish M.Sc. And Ph.D. programs in Immunology begins.

ESTABLISHMENT OF AN ANIMAL CARE FACILITY
in a home on McDermot Ave., across the street from the Annex. It was later moved to an old schoolhouse in Gunton, 50 km north of Winnipeg.

FIRST GRADUATES
awarded a University of Manitoba degree in Immunology
- Glen Lang, M.Sc.
- Fook Hai Lee, M.Sc.
- Istvan Berczi, Ph.D.

NATO ADVANCED STUDY INSTITUTE IN IMMUNOLOGY
2 week summer school at Minaki Lodge, Ontario

CANADIAN SOCIETY FOR IMMUNOLOGY
formally incorporated in Winnipeg

MEDICAL RESEARCH COUNCIL GRANT
for MRC group in Allergy Research involving ~50 researchers and renewed continuously until 1992.
The ‘70s – A Decade of Firsts

Decade of research discoveries

Discovery: Demonstration of cytotoxic lymphocytes capable of killing cancer cells
Berczi and Sehon, *Science*

NATO ADVANCED STUDY INSTITUTE
at Falcon Lake, Manitoba with ~70 participants

Discovery:
Suppression of IgE antibodies using chemically modified allergens
Lee and Sehon, *Nature*

Discovery:
Immune rejection of tumors by thymus independent mechanism
Greenberg and Greene, *Nature*

Discovery:
IgE receptor cross-linking activates histamine release
Conrad and Froese, *JACI*

BASIC MEDICAL SCIENCES BUILDING OPENS
with labs and offices for the Departments of Immunology, Anatomy, Physiology, Biochemistry, and Medical Microbiology and the Animal Care Facility.
The ‘80s – Building for the future
Innovation in technology and graduate student teaching

**HYBRIDOMA DEVELOPMENT UNIT**
One of the first core facilities for monoclonal antibody generation in Canada

**FLOW CYTOMETRY FACILITY**
one of the first in Canada

**IMMUNOLOGY GRADUATE STUDENT ANNUAL RESEARCH IN PROGRESS LECTURE SERIES**

**ARNOLD GREENBERG BECOMES DIRECTOR OF MANITOBA INSTITUTE FOR CELL BIOLOGY**

**1981**
Discovery: Pituitary hormone regulation of immunity
Nagy and Berczi

**1983**

**1984**
Discovery: Bronchodilator effects of caffeine in asthma
Becker and Simons, New Eng J Med

**1987**

**1988**

**1989**

**CLINICAL COLLABORATIONS WITH PEDIATRIC ALLERGY**
Estelle Simons
Allan Becker
The ’90s – A Decade of Change
Renewal and developing a new vision

**Discovery:**
Killer lymphocyte granule proteins that cause target cell death
Shi and Greenberg. *J Exp Med*

**A Natural Killer Cell Granule Protein That Induces DNA Fragmentation and Apoptosis**
By Liqia Shi,* Ricky P. Kirus,* Ruedi Aebersold,† and Arnold H. Greenberg

**Discovery:**
Chemically modified allergens elicit distinct T cell response
Yang and HayGlass. *J Exp Med*

**Discovery:**
Molecular mechanisms controlling immune cell adhesion
Ni and Wilkins. *J Biol Chem*

KENT HAYGLASS
APPOINTED
DEPARTMENT HEAD

REFERENDUM
REJECTS PROPOSAL
to abolish the Department of Immunology.

1992
1993
1996
1997
1998
1999

IMMUNOLOGY AWARDS
- Tom & Mindel Olenick Immunology Research Award
- A. Sehon Honourary Lectureship for Leadership in Immunology Research
- Annual Award for Best Immunology Journal Club presentation

30TH ANNIVERSARY FIRST STRATEGIC PLANNING RETREAT
- Graduate Trainee Professional Development Skills workshops initiated
- Department of Immunology/ ADE and Co. Award for Excellence in Graduate Research Award established
The 2000s – The New Millennium
Innovation and Expansion

STUDENT-ADJUDICATED TEACHING AWARD
Best Graduate Student Research in Progress presentation

CANADA RESEARCH CHAIR IN IMMUNE REGULATION
FIRST NEW FACULTY RECRUITMENT SINCE 1986

CIHR NATIONAL TRAINING PROGRAM IN ALLERGY & ASTHMA
involving 6 departments across 3 faculties

INTERNATIONAL SYMPOSIUM: The Hygiene Hypothesis

Discovery:
Flow cytometry-based cross-matching for organ transplantation
Nickerson et al., J. Am Soc. Neph.

Discovery:
New immune cell signaling proteins

CANADA RESEARCH CHAIR IN INFECTION & IMMUNITY
DESIGN & FUND-RAISING TO EXPAND THE DEPARTMENT OF IMMUNOLOGY

ANNUAL GRADUATE STUDENT ACADEMIC AWARD ESTABLISHED
through an endowment fund in honour of Dr. Donna Chow
The 2000s – The New Millennium
Innovation and Expansion

MANITOBA CENTRE FOR PROTEOMICS OPENS
University of Manitoba, Manitoba Medicine, Spring/Summer 2006

CANADA RESEARCH CHAIR IN MOLECULAR IMMUNOLOGY
PATRICK CHOIY APPOINTED ACTING HEAD

CONSTRUCTION BEGINS ON PURPOSE-BUILT SPACE FOR IMMUNOLOGY IN APOTEX CENTRE

Discovery: Immunotherapy with a ragweed vaccine.

DEPARTMENT RETREAT AT LAKEVIEW RESORT, GIMLI, MANITOBA
INAUGURAL PRAIRIE INFECTIOUS IMMUNOLOGY NETWORK (PIIN) CONFERENCE
Saskatoon, Saskatchewan

IMMUNOLOGY MOVES TO APOTEX CENTRE
REDWAN MOQBEL APPOINTED DEPARTMENT HEAD

NEW FRONTIERS IN IMMUNOLOGY INTERNATIONAL SYMPOSIUM
FIRST PIIN CONFERENCE HELD IN HECLA MANITOBA
The 2010s – Harmony and Impact

New leaders emerge

3 IMMUNOLOGY FACULTY AWARDED MANITOBA RESEARCH CHAIRS

Spencer Gibson
Jude Uzonna
Abdel Soussi Gounni

XI YANG APPOINTED DEPARTMENT HEAD

GLAXOSMITHKLINE CHAIR IN IMMUNOLOGY & INFECTIOUS DISEASE

Thomas Murooka

Discovery:
Identification of a protective antigen from Leishmania parasites.
Uzonna, Science Trans Med

Identification of broadly conserved cross-species protective Leishmania antigen and its responding CD4+ T cells

FACULTY OF MEDICINE CORE PLATFORMS IN IMMUNOLOGY

- Lentiviral Core Platform
- Immunophenotyping Core
- Flow Cytometry Core

Discovery:
Monoclonal antibody therapy for Ebola
Kobinger, Nature

DEPARTMENT RETREAT AT THE SOUTHWOOD GOLF & COUNTRY CLUB, WINNIPEG

CBC RADIO CANADA BROADCASTS
Des Éprouvettes et des Hommes
(Of Test Tubes and Man)

2011
2013
2014
2015
2015
2015
2015
The 2010s and beyond...

New leaders emerge

**Canadian Society for Immunology Meeting in Winnipeg**

**Discovery:** Functions of semaphorins in inflammatory and infectious diseases. Ghia, Uzonna, Yang, Kung, Soussi-Gounni

**Aaron Marshall** appointed head

**China Collaboration and Symposium** at Tianjin Third Medical University

**Women in Science: Development, Outreach and Mentoring Group**

**Discovery:** Development of molecular mismatch assessment for transplant. Wiebe, Nickerson

**Department of Immunology 50th Anniversary International Symposium**

Immunity: Translating Creativity into Better Health


Campus Beautification Day 2019

Planting of 50th Anniversary Tree

Discovery: Functions of semaphorins in inflammatory and infectious diseases. Ghia, Uzonna, Yang, Kung, Soussi-Gounni

Janilyn Arsenio, Neeloffer Mookherjee
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| Dual and Post Doctoral Fellows
Current and Future Immunology Research

Janilyn ARSENIO - Molecular studies of T cell differentiation and function in adaptive immunity. Single-cell genomics and systems analysis of T cells responding to infection and chronic inflammation

Meghan AZAD - Longitudinal birth cohorts to identify environmental and genetic factors that determine health vs disease in children. Microbiome studies. Epidemiologic analyses of the impact of breastfeeding on development of obesity, allergic disorders.

Shawn BABIUK - Studies of basic biology, pathogenesis, active and natural immunity and vaccine development against animal poxviruses, in particular capripox. (Canadian Food Inspection Agency)

Renée DOUVILLE - Biology of the thousands of human endogenous retroviruses carried within the human genome. Relationship between ERV re-activation and pathogenesis of ERV-associated neurological disorders such as ALS, Kennedy’s disease, schizophrenia and HIV.


Spencer GIBSON - Basic biology and translational research studies in leukemia to develop effective chemotherapy treatments. Chronic lymphocytic leukemia. BCL-2 and cell survival or cell death. Hypoxia, mitochondrial dysfunction and cell death in health and cancer.

Qingdong GUAN - Longitudinal birth cohorts to identify environmental and genetic factors that determine health vs disease in children. Microbiome studies. Epidemiologic analyses of the impact of breastfeeding on development of obesity, allergic disorders.

Andrew HALAVKO - Biology of airway smooth muscle and lung fibroblasts, pathophysiology of chronic lung disease, novel targets for pre-clinical testing of new asthma therapeutics, and mechanisms linked to the developmental origins of asthma and chronic obstructive pulmonary disease (COPD).

Kent HAYGLASS - Human immune regulation by cytokines and chemokines. The role of innate and Ag-specific CD4 T cell derived cytokines in pathogenesis of allergy and asthma vs good health. Prospective longitudinal cohort studies. Age and sex specific differences in normal immune homeostasis in good health.


Sam KUNG - Cellular and transcription factors regulating differentiation and function of natural killer cells and dendritic cells in innate and tumor immunity. Role of microenvironment in NK cell recruitment and specific effector function.

Francis LIN - Unravelling the complexity of immune cell migration and trafficking using an interdisciplinary approach integrating engineering tools, mathematical modeling, biology and immunology methods. Chemical and electrical cues in immune cell movement. Microfluidics.

Kelly MacDONALD - Sexually transmitted infections from both a clinical and research standpoint. Host immunity to HIV and its application to vaccine design. Human clinical trials examining mucosal immunity and the interaction between HIV and its co-factors

Pradip MAITI - Passive immunotherapy in murine models and humans. Development and testing of chicken-egg-derived polyclonal antibodies against key proteins of the intestinal parasite cryptosporidium for immunotherapy. Immunised inc


Neeloffer MOOKHERJEE - Molecular processes underlying chronic inflammation. Innate immunity. Immunomodulatory functions of host defence peptides in arthritis and asthma. Development of synthetic cationic peptides for control of inflammatory disease.


Afshin RAOUF - Microenvironmental regulation of breast cancer tumor response to chemotherapy. Using patient-specific models to reconstitute the microenvironment of breast cancer tumors to study tumor immunobiology and to examine the role of microenvironment in regulating breast cancer stem cell activity


Xi YANG - Immune regulation and host defense in chlamydial infection and allergic disorders. NKT cell modulation of dendritic cell function. Protective and detrimental roles of differential cytokine gene expression in intracellular bacterial infection. Biology of Th1/Th17 CD4+ T-cell function and innate immunity.