INFLAMMATION RESEARCH NETWORK

# Annual Report

## - 2007 -

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# Message from the Chair

As you will see from this 2007 annual report, this was another excellent year for the Inflammation Research Network. You may have noticed the new name and new logo for our research group. The name "Inflammation Research Network" is meant to reflect that our group now investigates basic processes of inflammation in a number of systems that go beyond mucosal surfaces; the new name also reflects that our list of members goes far beyond the Canadian border. We are grateful to Winnie Ho for her excellent winning submission in our logo contest.

IRN excelled at attracting extra-mural funding in 2007, with full members bringing in over $3 million in evermore competitive research grant programs. Moreover, the 5 full IRN faculty members and their laboratories published a total of 29 research papers, and over 40 additional articles were published by our associate members. We should recognize that a number of these publications are co-authored by our members, emphasizing again the strong collaborative spirit that surrounds our group's activities. We are extremely grateful to all our laboratory trainees and staff for making all of this possible. This year again, the excellence of our trainees has been recognized by many prestigious awards and scholarships from various agencies.

IRN remained an active player within the Institute for Infection, Immunity, and Inflammation at the Faculty of Medicine, and our members still held positions on various committees, including the Executive, Infrastructure, and Education committees. The superb contributions made by John Wallace throughout his career continued to be recognized by well-deserved awards, which in 2007 included the CAG Visiting Professor Award from the Canadian Association of Gastroenterology, and the BioAlberta Award for Scientific Achievement and Innovation. Andre Buret was awarded the Research Excellence Award from the Canadian Association of Gastroenterologists, and the Synergy Award for collaborative research and innovation, from the Natural Sciences and Engineering Research Council of Canada (NSERC). Nathalie Vergnolle received Research Awards from the Schlumberger Foundation, and another from the Bettencourt-Schueller Foundation.

In 2007, IRN's list of associate members continued to grow, with the addition of Dr. Gilberto de Nucci (Brazil), and Dr. Derek McKay (Calgary). We look forward to our continued collaborations with these 2 stellar scientists! BIW 2007, superbly organized by John Wallace, was yet again a great success. As our Group's tradition wants, all our members enjoyed the various social activities that are organized throughout the year. These included the following: "IRN in the snow", at the Kananaskis field station, served the best raclette cheese to date, thanks to Pierre-Yves von der Weid's voluntary "import activities" from Switzerland. The annual Lobsterfest, where this year everyone could enjoy, in addition to the lobster, magnificent "Digby" scallops freshly flown in by Carrie Fisher's parents, were superb; many thanks to Troy Feener for putting this together. Finally, the year ended with IRN's Christmas party, where everyone enjoyed the great food, music, and friendship…and this event's first: a keg of local brew… Thank you to Barbara Chyz for organizing this party, and helping coordinate the administration of the group throughout the year!

Thank you all for your enthusiastic contributions to IRN's activities this year!

Yours,

Andre G. Buret

# Full Members

**Andre G. Buret, PhD**
Professor
Department of Biological Sciences

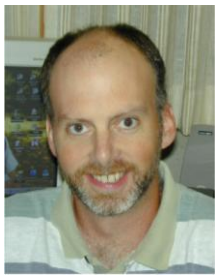
Research

Similar inflammatory, immunological, and pathophysiological events characterize disease processes at mucosal sites such as the intestine and the lung. Critical issues to this research area include understanding the role of immune cells and mediators, the role of cell death, and the mechanisms of epithelial injury and malfunction in the production of disease. The overall aim of my research is to define cell-cell interactions in these systems, and how such interactions may affect gastrointestinal and pulmonary physiology, responsiveness, and inflammation, in an attempt to develop novel therapeutic strategies.

**José Geraldo Ferraz, MD, PhD**
Clinical Associate Professor
Department of Medicine

Research

The interaction between basic and clinical research is critical for the understanding of the pathophysiology of gastrointestinal diseases. Collaboration between basic scientists and clinical investigators can provide answers to important clinical problems. The research currently conducted in my lab (GI Research Lab, Gastrocentro, Unicamp, Brazil) is focused on the effects of acute or chronic inflammation on gastric mucosal integrity in the presence of experimental cirrhotic and non-cirrhotic portal hypertension. Another major research interest is centered on the role of eosinophils in the pathogenesis of Crohn's disease and ulcerative colitis. We are currently investigating how eosinophil activation in peripheral blood, followed by migration to intestinal tissues, can contribute to the pathogenesis and disease activity in IBD.



**Wallace K. MacNaughton, PhD**
Professor
Department of Physiology and Biophysics

Research

Inflammatory diseases of the gastrointestinal tract are associated with a variety of symptoms including pain, diarrhea, and malabsorption among others. We are investigating various aspects of mucosal inflammation, concentrating on the role of the epithelium in the inflammatory response and symptom generation. Specifically, we are involved in investigations of the role of nitric oxide, prostaglandins and proteases in alterations of host defence mechanisms; dysfunctions which could lead to relapse of disease or exacerbation of inflammation in inflammatory bowel disease. In 2007 we also continued investigating the link between inflammation and cancer. This work has focused on the interrelationships among PARs, inflammatory mediators and beta-catenin.

**Nathalie Vergnolle, PhD**
Associate Professor
Department of Pharmacology and Therapeutics

Research

Inflammation is characterized by a series of events that includes vascular and cellular changes and a sensory response perceived as pain. The general aim of my research is to understand the mechanisms that govern inflammatory and pain processes at vascular, cellular and nociceptive levels. Specifically, we are investigating the role of proteinases and proteinase-activated receptors (PARs) in promoting and maintaining the inflammatory response and the transmission of pain. We are using different models mimicking human diseases such as inflammatory bowel disease, infectious colitis, arthritis, or neuropathies to delineate the domain of action of proteinases and their receptors in different pathologies. The overall aim of our research is to identify new targets for therapeutic intervention in the treatment of inflammation and pain.

**Pierre-Yves von der Weid, PhD**
Associate Professor
Department of Pharmacology & Therapeutics

Research

The function of lymphatic vessels to adapt their pumping activity to changes in fluid load is particularly important during inflammatory reactions. Our research is focused on the physiology of lymphatic vessels and mechanisms that lead to the spontaneous propulsion of the lymph, in an aim to integrate the knowledge of lymphatic functions in the physiology and pathology of organs and tissues. We are particularly interested in understanding how lymphatic pumping is generated and what are the electrical and cellular events that drive this activity. We are also looking at lymphatic function in inflammatory situations and are investigating how vasoactive substances and inflammatory mediators modulate pumping and the underlying smooth muscle electrical activity.

**John L. Wallace, PhD, MBA**
Professor
Department of Pharmacology & Therapeutics
AHFMR Senior Scientist
Canada Research Chair (Tier I) in Inflammation Research

Research

My major research interest is inflammation and the impact that it has on tissue injury and repair of injury. Most of my work involves studies of inflammation and ulceration in the gastrointestinal tract, although I also have a long-standing interest in cardiovascular inflammation and platelet function. I am particularly interested in identification of novel targets for anti-inflammatory therapies, and the subsequent development of such therapies. I was a scientific co-founder of NicOx, a company based in France which is developing nitric oxide-releasing derivatives of several classes of drugs (see www.nicox.com). More recently, I founded Antibe Therapeutics Inc., which has offices in Calgary and Toronto (see www.antibe-therapeutics.com) and is developing hydrogen sulfide-releasing derivatives of drugs for inflammatory bowel disease, arthritis, irritable bowel syndrome and endothelial dysfunction.

# Associate Members

**Paul L. Beck, PhD, MD**
Associate Professor, Department of Medicine
Division of Gastroenterology

A member of the Gastrointestinal Intestinal Research Group

Research Interests

Inflammatory bowel disease

**Howard Ceri, PhD**
Professor, Department of Biological Sciences
Chairman of the Biofilm Research Group

A member of the Bacterial Pathogenesis Research Group

Research Interests

One focus of my research program has been the role of carbohydrate binding proteins (lectins) in maintaining integrity of mucosal surfaces. We have demonstrated a regulatory role for lectins in mucin secretion. We have also shown a loss of mucin and lectin in benign prostatic hyperplasia and have developed a rat model of abacterial and bacterial prostatitis based on compromise of mucosal integrity. In this model we have demonstrated differences in the inflammatory response between abacterial and bacterial prostatitis and shown that inflammation alters with the expression of different bacterial virulence factors. We have also demonstrated the presence of PAR-1 and -2 in rat prostate tissue and continue to study their role in prostatitis. A second area of study is the development of bacterial biofilms at mucosal and inert surfaces. We have developed and patented a technology for the high through put screening of antibiotics and biocides active against biofilms.

**Kris Chadee, PhD**
Professor, Department of Microbiology & Infectious Diseases
Canada Research Chair (Tier 1) in Gastrointestinal Inflammation
Chair, Gastrointestinal Intestinal Research Group

Research Interests and Activities

Our research are focused on understand the mechanisms whereby infectious agents, lipid mediators of inflammation and cytokines modulate innate, immune and mucosal epithelial cell functions. Of particular interest to our group is the emerging concept that cross-talk between pathogen components and host cells or both, can predetermine the outcome of inflammatory or host defense mechanisms. Consistent with this concept, our program of research is divided into three areas as follows:
1. To define the biochemical and molecular interactions by which the mucosal pathogen, E. histolytica or their components can modulate epithelial barrier function in the gut.
2. To determine the molecular mechanisms by which prostaglandins regulate IL-8 gene expression and protein production in human colonic epithelial cells.
3. To define the cellular and molecular basis by which *E. histolytica* adhesin, the Gal-lectin, can stimulate an effective cell-mediated immune response against amoeba.

**Dr. Gilberto de Nucci**
Professor
Department of Pharmacology
University of São Paulo
BRAZIL

**Morley Hollenberg, D Phil, MD**
Professor, Department of Pharmacology and Therapeutics

A member of the Diabetes & Endocrine Research Group

Research Interests

Proteinases and inflammation

**Ron Mathison, PhD**
Adjunct Associate Professor, Department of Physiology and Biophysics

A member of the Gastrointestinal Intestinal Research Group

Research Interests

Anti-inflammatory peptides

**Jason McDougall,** PhD
Associate Professor, Department of Physiology and Biophysics
AHFMR Senior Scholar
Arthritis Society Investigator
A member of Joint Injury & Arthritis Research

Research Interests

The research in my laboratory centres on the role of the peripheral nervous system in controlling joint inflammation and pain. By using models of rheumatoid arthritis, osteoarthritis and joint injury, we assess the effectiveness of various drugs (eg. cannabinoids, neuropeptides, proteinases and opioids) in modulating inflammatory parameters such as joint blood flow, leukocyte trafficking and protein extravasation. We use classical physiological techniques as well as state-of-the-art technology to better understand the mechanisms responsible for neurogenic inflammation in joints.

One of the most challenging aspects of my research is the investigation into the physiological mechanisms responsible for the generation and maintenance of joint pain. We measure joint pain by making complex electrophysiological recordings from knee joint primary afferent nerves in response to mechanical manipulation of the joint. We also use various behavioural tests to monitor pain levels in our preclinical animal models of arthritis. Our hope is to identify novel targets which would be useful in the therapeutic management of joint pain and inflammation

**Derek McKay, PhD**
Professor, Department of Physiology and Biophysics
Canada Research Chair (Tier 1) in Intestinal Immunophysiology in Health and Disease
A member of the Gastrointestinal Intestinal Research Group

Research Interests

My research can be considered in two main themes: 1) an assessment of the regulation of the barrier function of the epithelium that lines the intestine and how epithelial function contributes to health and disease; and 2) the use of the rat tapeworm, *Hymenolepis diminuta*, to examine host immune responses and the control of inflammation. By the application of both systems, the primary goal of my research programme is to advance knowledge of normal homeostatic events in the gut that are required for health, define disease mechanisms, particularly as they apply to inflammatory bowel disease, and to identify possible new therapeutic approaches to treat intestinal secretory and inflammatory disease.

Some key advances have been made in these areas. We have continued to assess how the pro-inflammatory cytokine, interferon-g, leads to increases in epithelial permeability (i.e. indicative of a leakier intestinal barrier). Using a series of molecular and biochemical techniques, as applied to communication pathways within the epithelium, we showed that the enzyme PI-3K, is central to the ability of interferon-g to increased epithelial permeability. In a similar cell culture system, we found that epithelium cells under metabolic stress (i.e. reduced energy) internalize bacteria. While the full implications of this await clarification, we think this is an intriguing finding since bacteria that are typically excluded from the intracellular space of the epithelium are now inside the cell; this would present the host epithelial cell with significant challenges in reacting to what can now be thought of as an intracellular pathogen. In the analyses of how host and parasite (i.e. *Hymenolepis diminuta*) interact, we have demonstrated that prior infection with this tapeworm can significantly reduce the severity of colitis induced by specific, but not all, chemical irritants. In examining the beneficial effect of the tapeworm, we have accumulated evidence in support of a sub-class of macrophage being important in the suppression of inflammation in the colon.

**Marcelo Muscará, PhD**
Associate Professor, Department of Pharmacology
Head: Laboratory of Biochemical Pharmacology of Free Radicals
University of São Paulo

Research Interests

Nitric oxide and vascular function

**Remo Panaccione, MD, FRCPC**
Clinical Assistant Professor, Department of Medicine

A member of the Gastrointestinal Intestinal Research Group

Research Interests

Inflammatory bowel disease

**Quentin Pittman, PhD**
Professor, Department of Physiology & Biophysics

A member of the Hotchkiss Brain Institute

Research Interests

Central regulation of fever

**P.K. (Chari) Rangachari, PhD**
Professor, Department of Medicine
McMaster University

Research Interests

Mechanisms underlying the transport of ions across epithelial cells, in particular their regulation by nerves and autacoids.

**Keith Sharkey, PhD**
Professor, Department of Physiology & Biophysics

A member of the Gastrointestinal Intestinal Research Group

Research Interests

My research activities focus on the role of nerves in the gastrointestinal (GI) tract in health and in models of disease. My research spans studies from the brainstem control of GI function in normal animals, to studies of the role of enteric glia in conditions of intestinal inflammation. The GI tract has a dual autonomic innervation and its own, enteric nervous system. The relative roles the different neural components of the gut make to physiological and pathophysiological processes in the intestine is only now being fully understood. My studies seek to explore further both these groups of nerves in the function of the GI tract in health and in inflammatory diseases of the GI tract. Details of these projects can be found at: http://www.acs.ucalgary.ca/~ksharkey/.

**Philip M. Sherman, MD, FRCP(C), FAAP**
Professor, Division of Gastroenterology & Nutrition
The Hospital for Sick Children

Website: http://www.sickkids.ca/shermanlab/default.asp

Research Interests

Epithelial cells responses to microbes (*Helicobacter pylori, Campylobacter, Escherichia coli, Lactobacillus species*)

**David L. Sigalet, MD, PhD, FRCSC, FACS**
Associate Director, Department of Surgery
Professor of Pediatric Surgical Research
Director, Pediatric General Surgery Residency Program
Alberta Children's Hospital

A member of the Gastrointestinal Research Group

Research Interests

The control of intestinal nutrient

# Personnel

## Staff

Laurie Cellars (Technician, Vergnolle)
Kevin Chapman (Technician, Vergnolle)
Barbara Chyz (Administrative Assistant for IRN)
Mike Dicay (Technician, Wallace)
Troy Feener (Research Assistant Lab Manager, Buret)
Webb McKnight (Research Associate, Wallace)
France Moreau (Lab Manager & Senior Technician, MacNaughton)
Simon Roizes (Technician, von der Weid)
Shoubin Wen (Technician, MacNaughton)

## Post Doctoral Fellows

Dr. Nicolas Cenac (Vergnolle)
Dr. Camilla Dale (Vergnolle)
Dr. Christina Hirota (MacNaughton)
Dr. Gary Martin (Wallace & Mauro Perretti)
Dr. Jennifer O'Hara (Buret)
Dr. Veronica Swystun (MacNaughton)
Dr. Linda Vong (Wallace)
Dr. Hongying Wang (MacNaughton)

## Graduate Students

Christina Alexander (MacNaughton)
Aracely Chavez Piña (Wallace)
Elaine Chow (MacNaughton)
Carly Coelho (Buret & Wallace)
Genevieve Dudar (Wallace)
Carrie Fisher (Buret)
Andrew Flynn (Buret)
Eric Hyun (Vergnolle)
Lisa Kalischuk (Buret)
Tamia Lapointe (Buret)
Pam O'Connor (Buret)
Brent Parkins (Wallace)
Michael Peplowski (MacNaughton)
Sonia Rehal (von der Weid)
Andy Skinn (MacNaughton)
Jacques van der Merwe (MacNaughton)
Theresa Wu (von der Weid)

## Summer and Honours Students

Jamie McElgunn (Buret)
Heather Sayer (Buret)
Carrie Fischer (Buret)
Cheryl Zvaigene (Buret)
Jenny Bjazevic (MacNaughton)
Mariola Jung (MacNaughton)
Peter Dydra (von der Weid)
Long Nguyen (von der Weid)
Meredith Wallace (Wallace)

# Publications

**The names of the IRN faculty are in blue, the associate members in green, and the IRN trainees in orange.**

Afkhami-Goli A, Noorbakhsh F, Keller AJ, **Vergnolle N**, Westaway D, Jhamandas JH, Andrade-Gordon P, **Hollenberg MD**, Arab H, Dyck RH, Power C. Proteinase-activated receptor-2 exerts protective and pathogenic cell type-specific effects in Alzheimer's disease. 2007. *J Immunol*. 2007;**179**:5493-5503.

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# Funding

## Total Extramural Funding of Full Members $3,242,247

**André Buret**
Total funding: **$866,796**
Funding Agencies: Alberta Agricultural Research Consortium ALIDF / AVAC; Canadian Institutes of Health Research; Crohn's and Colitis Foundation; Margaret Gunn Endowment for Animal Research; Natural Sciences and Engineering Research Council; Pfizer Animal Health

**Wally MacNaughton**
Total funding: **$ 500,488**
Funding Agencies: Canadian Institutes of Health Research; Crohn's and Colitis Foundation of Canada

**Nathalie Vergnolle**
Total funding: **$693,354**
Funding Agencies: Canadian Institutes of Health Research; Crohn's & Colitis Foundation of Canada

**Pierre-Yves von der Weid**
Total funding: **$232,183**
Funding Agencies: Canadian Institutes of Health Research; Crohn's and Colitis Foundation of Canada; Heart & Stroke Foundation; Natural Sciences and Engineering Research Council

**John Wallace**
Total Funding: **$949,426**
Funding Agencies: Canadian Institutes of Health Research; Canadian Institutes of Health Research, co-sponsored by AstraZeneca and the Canadian Association of Gastroenterology; Canada Research Chairs Secretariat; Crohn's and Colitis Foundation of Canada

## Total Extramural Funding of Associate Members $3,604,239

**Paul Beck**
Total funding: **$144,000**
Funding Agencies: Canadian Institutes of Health Research; Crohn's and Colitis Foundation of Canada

**Howard Ceri**
Total funding: **$410,000**
Funding Agencies: Alberta Science and Research Authority; Canadian Cystic Fibrosis Foundation; Canadian Institutes of Health Research; Natural Sciences and Engineering Research Council

**Kris Chadee**
Total funding: **$ 1,316,000**
Funding Agencies: Canadian Foundation for Innovation; Canadian Institutes of Health Research; Crohn's and Colitis Foundation of Canada; FQRNT Centre; Natural Sciences and Engineering Research Council

**Morley Hollenberg**
Total funding: **Data not received**

**Ron Mathison**
Total funding: **Data not received**

**Jason McDougall $467,180**
Funding Agencies: Alberta Heritage for Medical Research; The Arthritis Society of Canada; AstraZeneca Research Contract; Canadian Arthritis Network/Eli Lilly & Company; Canadian Institutes of Health Research

**Derek McKay**
Total Funding: **$172,000**
Funding Agencies: Canadian Institutes of Health Research; Natural Sciences and Engineering Research Council

**Remo Panaccione**
Total funding: **Data not received**

**Quentin Pittman**
Total funding: **Data not received**

**Keith Sharkey**
Total funding: $**751,059**
Funding Agencies: Canadian Institute of Health Research; Crohn's and Colitis Foundation of Canada

**Dave Sigalet $343,000**
Total funding: Crohn's and Colitis Foundation of Canada; Centocor Pharmaceuticals (Johnson & Johnson, Philadelphia PA); Trillium Pharmaceuticals; Alberta Children's Hospital Research Foundation

# Honours & Awards

## Faculty

**Buret**

- Research Excellence Award, Canadian Association of Gastroenterologists
- Synergy Award for collaborative research and innovation, Natural Sciences and Engineering Research Council of Canada (NSERC)

**Vergnolle**

- Foundation Schlumberger Research Award
- Foundation Bettencourt-Schueller Research Award

**Wallace**

- CAG Visiting Professor Award, Canadian Association of Gastroenterology
- BioAlberta Award for Scientific Achievement and Innovation

## Trainees

**Christina Alexander, PhD candidate (MacNaughton Lab)**

- Summit Foundation III Studentship
- Honourable Mention in the III Research Day Poster Competition

**Carly Coelho, PhD candidate (Buret-Wallace Labs)**

- CAPES National Studentship, Brazil

**Genevieve Dudar, MSc candidate (Wallace Lab)**

- Queen Elizabeth II Graduate Scholarship

**Andrew Flynn, PhD candidate (Buret Lab)**

- Student Research Prize, Canadian Association of Gastroenterology
- Graduate Research Scholarship, University of Calgary
- Queen Elizabeth II Scholarship, University of Calgary

**Eric Hyun, PhD candidate (Vergnolle Lab)**

- Two poster of distinctions during Digestive Disease Week
- Queen Elizabeth II Graduate Scholarship
- Alberta Graduate Student Scholarship
- University of Calgary Medical Science Graduate Scholarship (From Nov 2006 to Mar 2007)

**Lisa Kalischuk, PhD candidate (Buret Lab)**

- Food Safety and Quality National Program (AAFC) Studentship

**Tamia Lapointe, PhD candidate (Buret Lab)**

- Graduate student Scholarship-Advanced Education and Technology Alberta

**Pamela O'Connor, MD/PhD candidate (Buret Lab)**

- AHFMR fulltime studentship
- NSERC CGS-M scholarship

**Jennifer O'Hara, post-doctoral fellow (Buret Lab)**

- CAG/Astra Zeneca/CIHR research fellowship

**Michael Peplowski, PhD candidate (MacNaughton Lab)**

- Achievers in Medical Science Graduate Recruitment Scholarship
- Dean's Entrance Scholarship
- UCBeyond Scholarship

**Jacques van der Merwe, PhD candidate (MacNaughton Lab)**

- Medical Science Graduate Program – Conference Award (2)
- Medical Science Graduate Program - Productivity Award

# Seminars

The Inflammation Research Network (formerly the Mucosal Inflammation Research Group) instituted a seminar program beginning in September of 2000. In addition to traditional seminars, presentations are made in the form of research-in-progress and in a journal club format. The Group is grateful to Drs. Nathalie Vergnolle and Pierre-Yves von der Weid for coordinating this program. The speakers in the program for 2005 were:

## External

| | |
|---|---|
| Dr. Giovanni Barbara | University of Bologna |
| Lisa Kalischuk | Agriculture and Agri-Food Canada |
| Prof Edgardo Moreno | National University, Heredia, Costa Rica |
| Dr. Mark Silverberg | University of Toronto |

## Internal

| | |
|---|---|
| Dr. Derek McKay | Gastrointestinal Research Group |
| Dr. Morley Hollenberg | Endocrine Research Group |
| Tamia Lapointe | Grad student, Dr. Buret's lab |
| Gary Martin | Post-doctoral Fellow, Dr. Wallace's lab |
| Dr. André Buret | Inflammation Research Network |
| Eric Hyun | Grad student, Dr. Vergnolle's lab |
| Christina Alexander | Grad student, Dr. MacNaughton's lab |
| Brent Parkins | Grad student, Dr. Wallace's lab |
| Michael Peplowski | BHSc student, Dr. MacNaughton's lab |
| Elaine Chow | Grad student, Dr. MacNaughton's lab |
| Dr. Nathalie Vergnolle | Inflammation Research Network |
| Pam O'Connor | Grad student, Dr. Buret's lab |
| Dr. Hongying Wang | Post-doctoral Fellow, Dr. MacNaughton's lab |
| Dr. Jason McDougall | Joint Injury & Arthritis Research Group |
| Dr. Howard Ceri | Biofilm Research Group |
| Dr. Jennifer O'Hara | Post-doctoral Fellow, Dr. Buret's lab |
| Genevieve Dudar | Grad student, Dr. Wallace's lab |
| Dr. Nicolas Cenac | Post-doctoral Fellow, Dr. Vergnolle's lab |
| Dr. Veronica Swystun | Post-doctoral Fellow, Dr. MacNaughton's lab |
| Andrew Flynn | Grad student, Dr Buret's lab |
| Dr. Pierre-Yves von der Weid | Inflammation Research Network |
| Eric Hyun | Grad student, Dr. Vergnolle's lab |
| Dr. Wallace MacNaughton | Inflammation Research Network |
| Dr. Niklas Schuelert | Post-doctoral Fellow, Dr. McDougall's lab |
| Dr. Michael Johnston | Post-doctoral Fellow, Dr. McKay's lab |
| Dr. Linda Vong | Post-doctoral Fellow, Dr. Wallace's lab |
| Colin Reardon | Grad student, Dr. McKay's lab |
| David Prescott | Grad student, Dr. McKay's lab |
| Christina Alexander | Grad student, Dr. MacNaughton's lab |
| Dr. Rithwik Ramachandran | Post-doctoral Fellow, Dr. Hollenberg's lab |
| Jacques van der Merwe | Grad student, Dr. MacNaughton's lab |

# Teaching

IRN faculty members participated in teaching the following courses in 2007.

- BIOL 305 The Human Organism (Le corps humain)
- BIOL 503 (Advanced Pharmacology)
- CB8: Signaling Mechanisms II
- CMMB 431 Bacterial Pathogenesis
- MDSC 397.01 and 397.02 Independent Studies in Health Sciences
- MDSC 404/604 Integrative Human Physiology
- MDSC 501/BIOL 501 Physiological and Biophysical Basis of Pharmacology
- MDSC 503 - Landmarks in Pharmacology
- MDSC 612 Medical Microbiology
- MDSC 613 Microbial Pathogenesis
- MDSC 619.02 Neuroscience II – Systems Neuroscience
- MDSC 621.01 Basic Principals of Pharmacology
- MDSC 637.01 Organization and Function of the Gastrointestinal Tract
- MDSC 638 Mucosal Pathophysiology
- MDSC 647.01: Physiology and Pharmacology
- MDSC 755.27 Advanced Topics in Inflammation
- ZOOL 363 Human Physiology or INTRO TO HUMAN PHYSIOLOGY II
- ZOOL 483 Introductory Parasitology
- ZOOL 530 Mucosal Pathophysiology
- Mastere 1: Immunology Course, Universite Paul Sabatier, Toulouse, France
- Neuroscience 472/572 - University of Alberta
- PSYC 4630 Neuroscience University of Lethbridge

# Community Service

**Buret**

- Head coach/Head instructor (rank: yon dan [4th degree], shidoin), Calgary Chito Ryu Karate
- Provincial coach, Karate Alberta Association
- Supervision of students for the "High School Enrichment" program, "Take our kids to Work" program, "High School Science Fairs" (Chair of the Biomedical Projects, National Fair) and lectures in elementary schools for career orientation.

**MacNaughton**

- Assistant Coach, Calgary Minor Hockey Association

**Wallace**

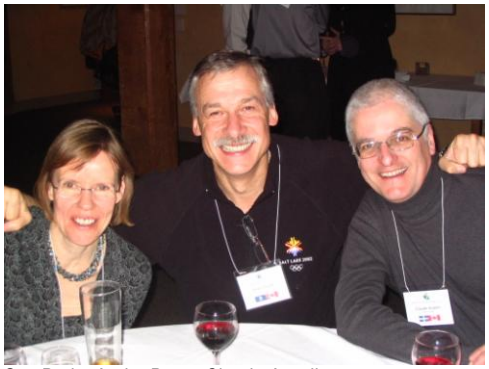
- Referee, Calgary Women's Soccer Association
- Referee, Calgary Minor Soccer Association
- Referee, Calgary United Soccer Association, Rocky View School Division

# Pictures

## Banff Inflammation Workshop

Paul Sinclair, Derek McKay, Sean Colgan

Bill Sessa, Dan Legault, John Wallace, Charles Serhan, Mauro Perretti, Giuseppe Cirino



Sue Brain, Andre Buret, Claude Asselin

Veronica Swystun, Cameron Bell, Peter Ernst

Linda Vong, Sam Asfaha, Brent Parkins, Aracely Chavez Piña, Genevieve Dudar, Mike Dicay, Brian Reuter, Gary Martin

Andrew Flynn, Lisa Kalischuk, Troy Feener, Jacques van der Merwe

Laurie Cellars, Kevin Chapman

Mauro Perretti, Andre Buret

Andre Buret, Nicolas Cenac, Gary Martin

Charles Parkos, Kim Barrett

Christian Jobin, Webb McKnight

Claude Asselin, Andrew Stadnyk

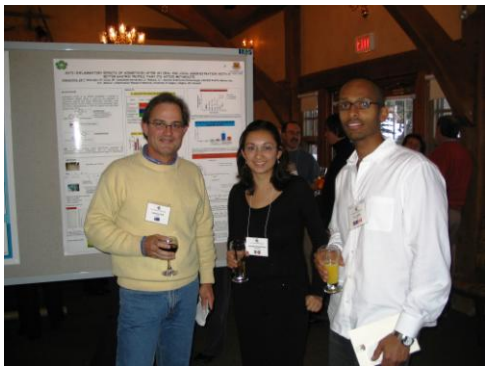
Giovanni Barbara, Nathalie Vergnolle, Michel Chignard, Nicolas Cenac

Mike Belosevic, John Wallace

Jose Gerald Ferraz, Cameron Bell, Wally MacNaughton

Derek Gilroy, Webb McKnight, Adriano Rossi

Brent Parkins, Nicolas Cenac, Brian Reuter, Wally MacNaughton
Mike Dicay, Cam Bell, Linda Vong, Gary Martin, Andre Buret



Cameron Bell, Aracely Chavez Piña, Sam Asfaha

Christina Alexander, Elaine Chow

Christina Jobin, Mauro Perretti, Charles Serhan

Dan Legault, Asma Nusrat

Derek Gilroy, Mike Dicay

Charles Parkos, Jenny Cai

Theresa Pizarro, John Wallace, Sue Brain

Sam Asfaha, Pam O'Connor, Paul Beck

Christian Jobin, Peter Ernst

Brian Reuter, Theresa Pizarro, Fabio Cominelli

Pierre-Yves von der Weid, Keith Sharkey, Kris Chadee, Phil Sherman, Michel Chignard, Jason McDougall

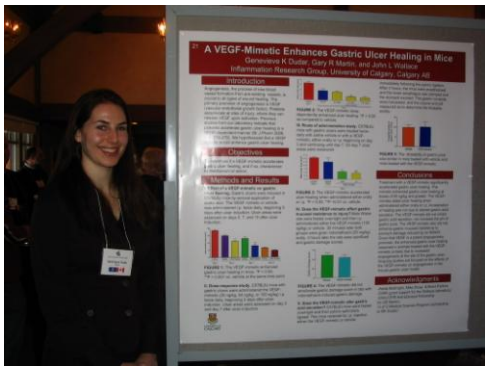
Kim Barrett, John Wallace, Pierre-Yves von der Weid

Peter Ernst, Bill Sessa

Phil Sherman, Paul Sinclair, Graham Watson

Tamia Lapointe, Mike Dicay, Pam O'Connor

Kelly Plaku, Elaine Chow, Christina Alexander




Genevieve Dudar

Wally MacNaughton, Brian Reuter, Gary Martin

Aracely Chavez Piña, Andre Buret

Nicolas Cenac, Andre Buret

Catherine Ivory, Andre Buret

## IRN Faculty Retreat

José, John, Kris, Nathalie, Andre, Jason

France, Kirsty, Marco, Nicole, Beth

Nicole and Andre Buret

Beth Chin and John Wallace

Marco Sangiorgi and Nathalie Vergnolle

José and Cassia Ferraz

Jason and Kirsty McDougall

France Moreau and Kris Chadee

## IRN Christmas Party


Veronica Swystun, Webb McKnight


Liliane & Pierre-Yves von der Weid


Kirsty & Jason McDougall


Webb McKnight, Alison Murray


Alison Murray, Paul Beck, Morley Hollenberg


Alison Murray, Paul Beck, Early, Mike Dicay, Gary & Krista Martin

Desirée & Troy Feener, Carly Coelho

Michael Peplowski, Xiufeng Peng, Annie Li, Shoubin Wen
Hongying Wang, Sonial Rehal, Danny Polley, Christina & Simon Hirota

John Wallace, Gary & Krista Martin, Beth Chin,
Derek & Catherine McKay

Gary & Krista Martin

Nicole Buret, Beth Chin, Jose Geraldo Ferraz

Cathy MacNaughton, Cassia Ferraz, John Wallace, Desirée &
Troy Feener

Mike Dicay and Early

Krista & Gary Martin, Carly Coelho

Jody & Quentin Pittman

France Moreau & Kris Chadee

# Congratulations Beth & Andrew

Jennifer Lamb, Troy & Desirée Feener, Andre Buret, Beth Yearwood, Andrew Flynn, Guy & Tamia Lapointe, Pam O'Connor