

Department of Pathology

ANNUAL REPORT

2009



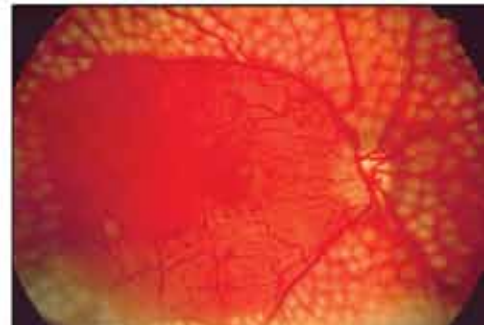
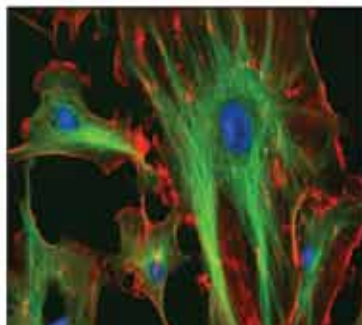
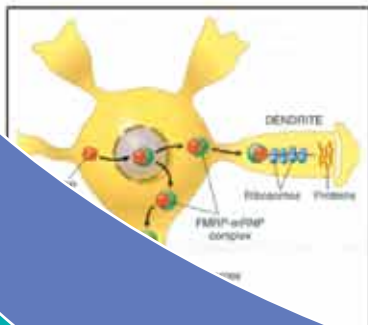
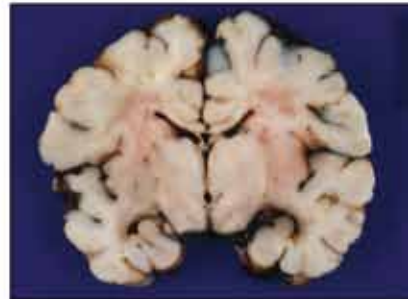
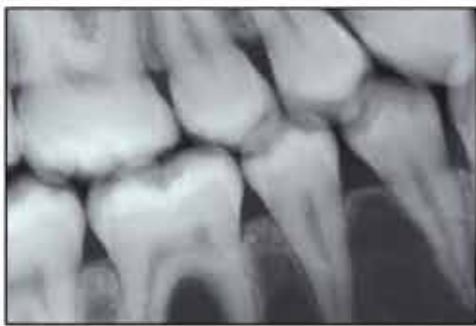
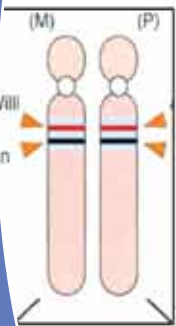
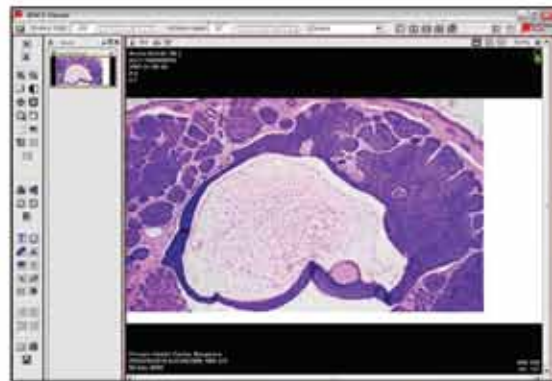
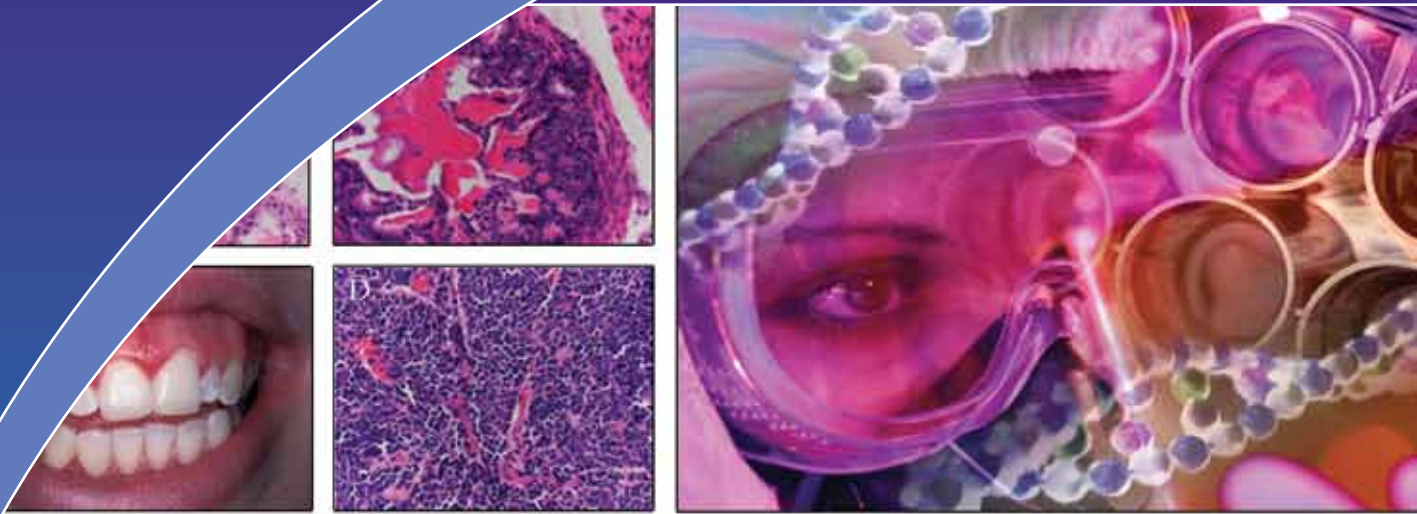


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1. Our Vision, Mission and Core Values

The Department of Pathology

Schulich School of Medicine & Dentistry, The University of Western Ontario and London Health Sciences Centre/St. Joseph's Health Care, London

The Department of Pathology fully supports the mission and values of the Schulich School of Medicine & Dentistry of The University of Western Ontario, London Health Sciences Centre and St. Joseph's Health Care London.

Vision

Provide state-of-the-art diagnostic pathology services while achieving excellence in pathology research and education.

Mission

Members of the Department of Pathology strive to provide a quality work environment that fosters unity, respect for diversity, teamwork and professional growth. We are committed to serve our:

Patients, by providing efficient, comprehensive and high quality diagnostic services for optimal patient outcome and health. We are committed to strategies that result in continuous improvement of the quality of our services.

Students, by providing the best student experience through outstanding educational programs for undergraduate, graduate and postgraduate students, and other health care professionals within a clinical and research intensive environment. We integrate continuing medical education programs into the departmental activities.

Scientific Research Community and Health Care Partners, by sharing expertise, fostering interdisciplinary collaboration, and providing exemplary educational and scientific resources. We are a strong clinical and basic science department and our research endeavors include basic science, clinical and translational research.

We provide research leadership by identifying our strong research strengths and enhancing research productivity with selective allocation of resources. We guide and collaborate with our regional partners to improve the diagnostic pathology services throughout Southwestern Ontario.

Society, by actively applying the art and science of pathology in educating the community in matters of health and disease.

Our Core Values

Team Work

We believe in a team-based problem identification and problem solving methodology.

We believe in interdisciplinary networking.

Innovation

We are flexible and adaptable in order to meet the changing needs of society.

We strongly believe in continuous quality improvement to enhance clinical performance outcomes.

Leadership

We strongly encourage members to take leadership roles in education, research and management.

We support the leaders who guide our mission.

**“We must become the change we want to see”
Mahatma Gandhi (1869-1948)**

2. Message from the Chair/Chief



“Our passion for education, our dedication to research and our respect for the patients we serve are at the core of our values.”

Dr. Bertha Garcia

Chair/Chief, Department of Pathology

The Department of Pathology has continued to expand its presence and impact in all critical aspects of our mandate¹: clinical practice, research, service to the community, and teaching.

The Department of Pathology is uniquely placed as a bridge between the basic science and clinical medicine disciplines that allow us to be an effective conduit and facilitator of multidisciplinary and translational research and cross-disciplinary teaching initiatives. As such, we have successfully launched Canada’s first fully accredited “Pathologists’ Assistants MSc Professional Program” with broad support from our faculty, staff and hospital partners in London and Southwestern Ontario. Our first students graduated in the spring of 2009 into a highly attractive workplace clamoring for these trained professionals and physician-extenders. We currently have 8 students enrolled in our program. This initiative adds to a comprehensive graduate program which includes two other novel programs: an interdisciplinary program in “ecosystem health” with graduate students performing participatory research with aboriginal communities in Canada and Africa and faculty members from home departments in the Social Sciences, Sciences, Engineering and Schulich; and a part-time graduate program to facilitate the training of clinician researchers, a vanishing breed in Canada. In the true spirit of collaborative research, many of our departmental publications are co-authored by researchers and clinicians from other departments and health research institutes at Schulich, at Western, in Canada and abroad.

From the point of view of Postgraduate Medical Education, our residency programs are bucking the national trend and continue to be highly competitive and oversubscribed. Our consistent 100% success rate over the past 15 years at the Royal College of Physicians and Surgeons Fellowship examinations is a testament to our ongoing success as educators in the disciplines of Anatomic Pathology, Neuropathology and Medical Microbiology.

From the perspective of Undergraduate Education, we teach in medicine, dentistry, bachelor of medical sciences, faculties of sciences and nursing and laboratory technology programs (St Clair College, Windsor, and Michener Institute, Toronto). Our faculty members continue to be successful in winning prestigious Schulich (Faculty), UWO, Provincial and National Teaching Awards.

As clinicians, we are leading Ontario in a number of quality health initiatives that include the implementation of synoptic reporting in cancer diagnosis; provincial performance indicators in pathology cancer reporting; and most recently in the professional interpretation quality monitoring initiatives. Our Pathology faculty's annual career development and planning process includes a wide variety of performance indicators that serve as a management tool of physicians' practice performance, an innovative first in London and Ontario. This process is the backbone of the departmental Human Resources Planning process and workload analysis.

As I look forward to our departmental external review in the spring 2010 in preparation for the recruitment of my successor for 2011, I am pleased by what we have accomplished in the past few years and how we have positioned ourselves firmly in the centre of translational research and multidisciplinary education.

I believe that this is an exciting time to be in the Department of Pathology at Schulich. Our passion for education, our dedication to research and our respect for the patients we serve are at the core of our values. Furthermore, we believe that we can make it happen, and that we must be an important contributor to any large Western proposal that contains a critical human disease component.

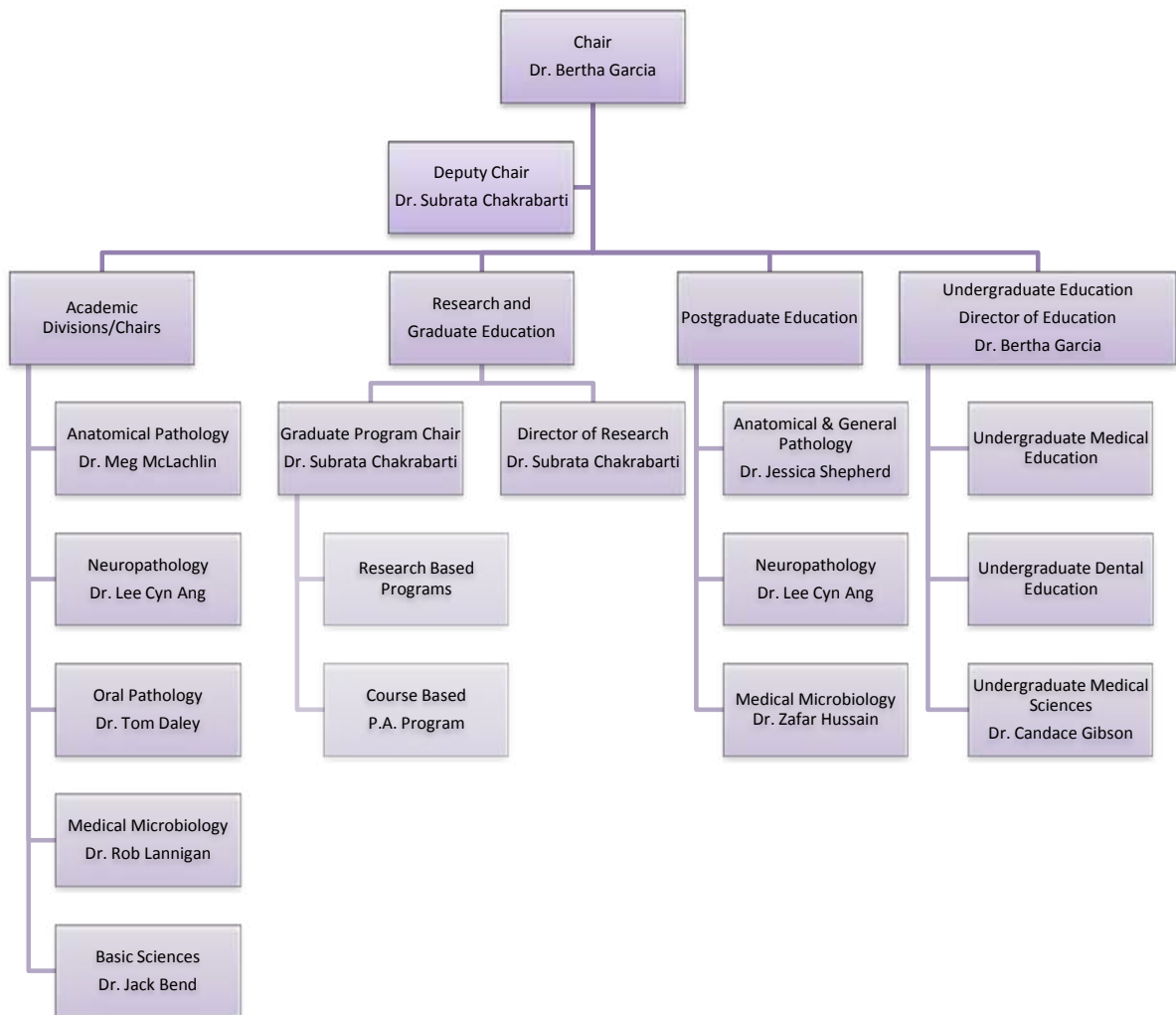
A handwritten signature in black ink, appearing to read 'Bertha Garcia', with a large, sweeping flourish extending to the right.

Bertha Garcia, MD, FRCP(C)
Professor, Chair/Chief
Department of Pathology
Schulich School of Medicine & Dentistry
The University of Western Ontario

¹. Critical elements of mandate are placed in alphabetical order to emphasize their equivalent performance, and not to suggest there is a priority amongst them. To be outstanding we must do all exceptionally well and that is our goal.

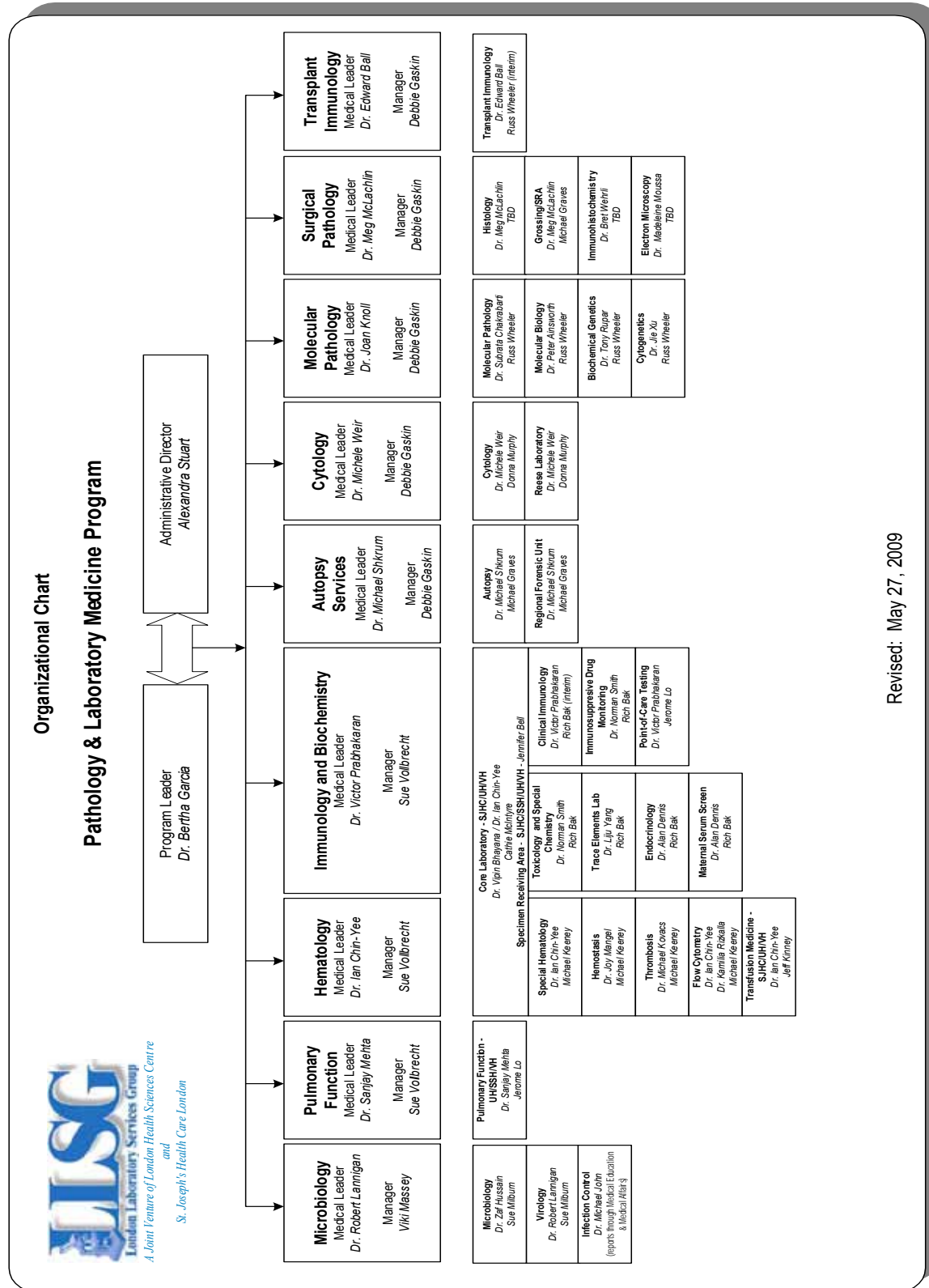
3. Organizational Charts

3a. UWO Department of Pathology Schulich School of Medicine and Dentistry Organizational Chart



Please see **Section 5** for Organizational Chart for Pathology & Lab Medicine at LHSC

3b. London Laboratory Services Group Pathology and Laboratory Medicine Program Organizational Chart



4. Staff

Department of Pathology Quick Facts At July 1, 2009

FT Clinical Academics: **28**

FT Basic Scientists: **7**

Emeriti: **11**

Cross Appointees: **15**

Institute Scientists: **6**

Adjunct/MD: **18**

Limited-Duty Basic Science Researchers: **4**

UWO Staff (includes 2 technical staff): **7**

Clinical Fellows: **2**

Postdoctoral Fellows and Associates, and Visiting
Scientists: **4**

Pathology Residents: **17**

Pathology Graduate Students: **31**

BMSc Pathology / Toxicology: **9**

Other Student Constituencies Served:

Undergraduate Medicine (Meds I, Meds II, Meds IV): **417**

Clinical Clerkship / Visiting Elective / Meds I

Observerships: **19**

Other Electives: **6**

Postgraduate Medicine (Resident Electives): **5**

Undergraduate Dentistry (Dents II, Dents III, ITD): **127**

BScN / Nursing (UWO, CTF, FC): **279**

Undergraduate Medical, Biological and Health Sciences
(3rd & 4th Year): **327**

Faculty (at July 1, 2009) Primary Appointment in Pathology

Professor and Chair

Bertha Garcia

Professors Emeriti

Colin Anderson

George Cherian

John. V. Frei

Joe Gilbert

Robert A. Goyer

Collette M. Giraudon

M. Daria Haust

John Kaufmann

Mary Ellen Kirk

David Turnbull

George Wysocki

Professors

Lee Cyn Ang

Jack Bend

Subrata Chakrabarti

Tom Daley

David Driman

Rob Hammond

Zafar Hussain

Mariamamma Joseph

Joan Knoll

Rob Lannigan

Meg McLachlin
Madeleine Moussa
Kamilia Rizkalla
Mike Shkrum

Associate Professors

Chris Armstrong
Ted Ball*
Mark Darling
Helen Ettler
Candace Gibson
Michael John
Keith Kwan
Carolyn McLean
David Ramsay
Jessica Shepherd
Alan Tuck
Ted Tweedie
Bret Wehrli
Michele Weir
Jie Xu*

Assistant Professors

Chandan Chakraborty
Nancy Chan
Manal Gabriel
Jose Gomez Lemus
Zia Khan
Jeremy Parfitt
Elena Tugaleva

***Institute Scientists,
primary appointment
in Pathology**

Cross Appointees

Professors

Paul Adams (Medicine)
Ann Chambers (Oncology)
Regna Darnell (Anthropology)
Guido Filler (Paediatrics)
Carol Herbert (Family Medicine)
Steve Karlik (Medical Imaging)
Jim Koropatnick (Oncology)
Michael Strong (CNS)
Charlie Trick (Biology)
David White (Surgery)**

Associate Professors

Valter Feyles (Ob/Gyn)
Cindy Hutnik (Ophthalmology)
Weiping Min (Surgery)***
Jim Xuan (Surgery)**

Assistant Professors

Tianqing Peng***
Hao Wang (Surgery)***
Zhu-Xu Zhang (Medicine)***

** *UWOFA Scientists in clinical department*

*** *Institute Scientists in clinical department*

Clinical Adjunct Professors

Peter Ainsworth (UWO, Pediatrics)
Pat Allevato (Windsor Regional Hospital)
Mohammad Alomari (Windsor Regional Hospital)
Saad Awad (Chatham Kent)
Ian Craig (St. Thomas Elgin)
Ram Gidwani (Bluewater Health)
Omar Hakim (Windsor Regional Hospital)
Michael Helde (Hotel Dieu Grace, Windsor)
Dong Liu (Woodstock General Hospital)

Rosemary Lubynski (Bluewater Health)
Victor Prabhakaran (UWO, Biochemistry)
Brian Rudrick (Grey Bruce, Owen Sound)
P.C. Shah (Strathroy Middlesex Hospital)
Sajid Shukoor (Hotel Dieu Grace, Windsor)
David Shum (Windsor Regional Hospital)
Latif Tadross (Guelph Regional Hospital)
Abdelghani Tbakhi (Windsor Regional Hospital)
Fasahat Wasty (St. Thomas Elgin)

Limited Appointees

Edith Arany (Medicine), Assistant Professor
Penny Costello, Adjunct Research Professor
Tyrrel de Langley (ACVS), Assistant Professor
Xiufen Zheng (Surgery), Adjunct Research Professor



Pathology Research Day Friday May 13, 2008

Please see Section 5: Pathology and Laboratory Medicine Program at London Teaching Hospitals for information on our Hospital Staff

Administrative Staff – UWO Site

Our administrative team is made up of a dedicated group of skilled individuals, some of whom joined us just recently and others who have been with the Department of Pathology for many years. The administrative team is proud of the work they do and the important contributions and impact that this has on the department as a whole.



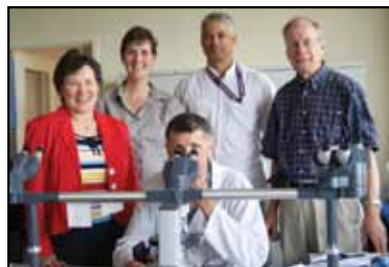
Gail Heslinga (Residency Program Assistant), Mair Hughes (Administrative Officer), Tracey Koning (Graduate Program Assistant), Cheryl Campbell (Undergraduate Program Assistant), Linda Jackson (Department Technician), Dorothy Bere (Vice Dean's Assistant), Kathilyn Onn (Media Specialist). Not in picture: Tara Meecham – on leave (Vice Dean's Assistant) and Kris Milne – on leave (Media Specialist).

Farewells

Rosamma George: Dr. George finished her term appointment with us as a Pathologist and moved to Toronto in June 2008 as a staff pathologist at the Trillium Health Centre, Mississauga, ON.

Mildred Martens: Dr. Martens joined the LHSC Department of Pathology in January 2003 and became full staff July 1, 2003. Mildred was a key member of our Nephropathology and Genitourinary services. She takes her specialties with her to British Columbia where she has joined the Department of Laboratory Medicine and Pathology at the Royal Jubilee Hospital in Victoria.

Jennet Quinton, Secretary, Oral Pathology, retired on June 30, 2009, after 19 years of service.



In Memoriam

Surrounded by his family at his residence on Sunday, April 26, 2009, **Donald “Don” Gibson** of London passed away in his 75th year. Don worked as the UWO Pathology departmental technician and retired in 1995 with 21 years of service.

5. Pathology Laboratory Medicine Program at London Teaching Hospitals

5a. Report from Administrative Director, LLSG Alex Stuart



The following are some of the highlights from the London Laboratory Services Group (LLSG) for the past twelve months.

FISH (Fluorescent In-Situ Hybridization)

A more streamlined process for ordering FISH was introduced, making it easier to track cases and for clinicians to access FISH results.

New Voice Recognition System

In the spring of 2009, a voice recognition system was introduced for reporting. Voice recognition reduces the need for clerical support and improves turnaround times, and is being used by some pathologists.

Digital Camera for Electron Microscopy

The Electron Microscopy lab installed a new digital camera system in March 2009. This improves image handling and expands and facilitates the documentation of cases by E.M. Through a link with the hospital computer network, images are available for viewing by the pathologists in their offices.

New Mentoring Program

A new Mentoring Program for staff was introduced. After information/training sessions for mentors and mentees in the spring of 2008, four mentor/mentee matches began their relationships in September 2008. Following a pilot project in 2008, an evaluation showed unanimous support from the mentors and mentees.

New Technical Development Program

A new Technical Development Program will allow Technologists interested in expanding their scientific knowledge to obtain an advanced scientific certification. This will promote academic excellence, in order to develop and sustain our laboratory's technical and clinical support at London's teaching and research hospitals. The Technical Development Program is also a succession planning tool to prepare a recruitment pool of staff to apply for specialty laboratory and Senior Technologist positions.

Pathologists' Assistant Workshop

Mike Graves, Coordinator of Autopsy Services in Pathology, conducted a Pathologists' Assistant workshop for the Windsor-Essex hospitals in February 2009.

Accreditation

A key part of every laboratory is maintaining high quality standards and meeting provincial, national and sometimes international accreditation standards. In this past year, LLSG passed all accreditation standards with flying colours.



5b. Report from Pathology Laboratories Manager Debbie Gaskin

The Pathology Laboratories at London Health Sciences Centre encompass laboratories including Anatomical Pathology, Ancillary Pathology which includes Electron Microscopy, Immunopathology and Neuropathology, Autopsy Services, Cytogenetics, Cytology including the Reese Laboratory, Grossing Room, Molecular Biology, Molecular Pathology, Molecular Genetics, Specimen Receiving Area, Transplant Immunology and the Pathology Clerical Support Group.

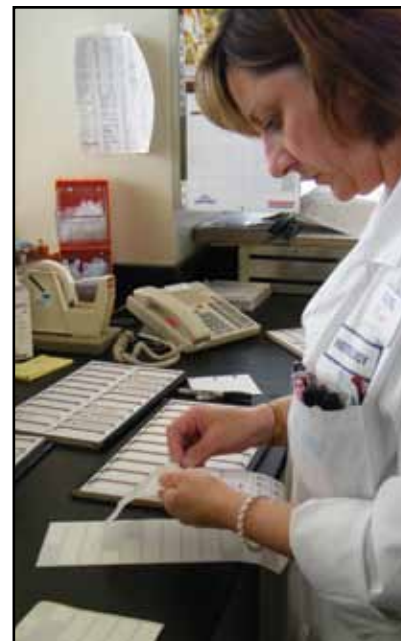
Our focus has been service, education and research. Service challenges include managing the increases in volumes and complexity of the testing while incorporating new testing. We have been successful in supporting the technical component in the laboratory. In education, the Pathology Laboratories are actively involved in the teaching of students in the Medical Laboratory Technologist, and Medical Laboratory Assistant programs. We are very proud to provide one of the two Pathologists' Assistants programs in Canada, in which the teaching opportunities have been fully embraced by our technical staff. We take an active approach with research programs, in collaboration with both hospital and government funded sources. Our laboratories supply technical support and expertise to outlying regional facilities.



5c. Pathology Laboratories July 2008-June 2009 Statistics

Staff Numbers						
Clerical Support	Coordinators / Team Leaders	Lab Assistants	Pathologist's Assistants	Research Associates & Assistants	Technologists (including senior techs)	Scientists
21	6	13	9	4	81	1

Approximate Statistical Averages									
Histopathology									
Autopsy #	Coroners cases	Surgical Cases	Intra-Operative Consultation Reports	Slide Counts	Block Counts	Rapid Processing	Cytology		
							Gyn	Non-Gyn	FNA
290	320	46,500	1600	423,000	197,000	600	23,500	16,300	800
Molecular/Genetics									
Cytogenetics					Molecular Biology	Molecular Pathology	Molecular Genetics		
Initial Handling & Report	Sign-Off				Specimens	Specimens	Tests		
	Abnormal Case	Complex Case	Normal Case	Oncology Case					
3,850	800	100	2,350	1,500	4,100	180	5,200		
Transplant									
Tests									
9,800									



6. Division Head Report

6a(i). Report from Medical Leader of Surgical Pathology Dr. C.M. McLachlin

The division of Surgical Pathology is lead by Dr. Meg McLachlin who also acts as the Deputy Chief of Pathology. The Department includes 25 surgical pathologists including 3 neuropathologists. As well there are two oral pathologists that are affiliated through the University Department. For the first time in many years the Department is fully staffed with no pathologist vacancies. The human resources plan for Department includes the addition of 4 more surgical pathologists. Discussions are underway with hospital administration and the Ministry of Health and Long Term Care to fund one of these positions for January 1, 2010 and a candidate has been identified.



The Department of Pathology endeavors to provide a balanced approach to service, education and quality. In recent years the Department has completed a transition to a subspecialty approach for the surgical pathology services with dedicated teams of pathologists providing focused expertise. It has been a challenge to ensure adequate team coverage especially for subspecialties with lower surgical volumes. However in the last year 2 new recruits have filled the remaining gaps. Our educational model has evolved in order to provide residency training in line with this sub-specialized approach. Residents from both pathology and other services now spend blocks of time with dedicated teams focusing on specific areas of surgical pathology.

The Department has focused considerable effort in reviewing and enhancing our quality initiatives. Synoptic reporting for the majority of cancer sites is now standard and our Department has consistently exceeded the Cancer Care Ontario requirements for cancer pathology reporting. Under the leadership of Dr. H Ettler, a new professional committee focusing on quality in interpretive pathology has been charged with reviewing and standardizing our procedures in order to optimize diagnostic quality. Our quality procedures for immunopathology are in line with national initiatives and we serve as a regional resource to our community partners.

The division of Surgical Pathology has several challenges and opportunities to meet in the coming years. The increasing complexity of surgical pathology material and the greater expectations for additional testing will require a measured approach to the inclusion of molecular techniques. Our Department already has sufficient expertise; however providing resources for new testing remains a challenge. Additional challenges will include regional initiatives, increasing workload and expanding subspecialty expertise.

6a(ii). Report from Medical Leader of Autopsy Service and Director of Southwestern Ontario Regional Forensic Pathology Unit Dr. M. Shkrum



The autopsy facility at London Health Sciences Centre – University Hospital (UH) opened in 2000 and was designated as a Regional Forensic Pathology Unit by the Office of the Chief Coroner in 2001. All autopsies requested by families in any of the hospitals in London are done in the UH facility. All local medicolegal cases investigated by coroners are sent to the UH service. In addition, problematic coroners' cases (e.g. homicides, criminally suspicious deaths, pediatric deaths) from southwestern Ontario are referred to London. Access to not only pathologists having various subspecialty expertise but also other experts (radiology, dentistry, anthropology) ensures high quality results. Excellent support staff are available.

In 2008, there were 557 autopsies done at UH. Of these, 388 were coroners' cases. Outside referrals were 130 (34%) of the medicolegal postmortems. Based on 2007 statistics, 16 homicides were referred.

The autopsy service continues to play an active teaching role. In addition to intradepartmental rounds, interactive rounds with other clinical services (cardiology, intensive care, neonatal and pediatric services) are ongoing academic activities. Forensic medicine courses are offered to UWO undergraduates and medical students. The autopsy service is an essential component of MSc Pathologists' Assistant program offered by the Department of Pathology.



6a(iii). Report from the Medical Leader of Cytology

Dr. M. Weir

The division of cytology provides a crucial diagnostic service within the Department of Pathology. There are nine full time cytotechnologists, two full time technicians, one coordinator, and 12 pathologists who contribute to teaching, education, research and quality assurance activities in addition to a high volume service commitment (28000 samples per year) which includes regional expert consultation work.

Over the past academic year, the staff have participated in teaching of: 1) a cytotechnology student from the Michener Institute of Health who successfully passed her exams and was hired at London Health Sciences Centre; 2) several residents in the Anatomical Pathology program during their three month cytology rotations and at their Academic Half Days didactic lectures; and 3) medical students in their 2nd year Reproduction course and 4th year Pathology course. Several of the cytotechnologists have been appointed as Clinical Educators with the Michener Institute of Health Sciences.

For research accomplishments, there were four posters (two by residents and two by cytotechnologists) at the Canadian Association of Pathology meeting in Ottawa, one of which won the Hugh Curry Award for best poster by a cytotechnologist. As well, a pathology resident had a poster on a new quality assurance initiative at the November meeting of the American Society of Cytopathology.

Investment in and support of professional growth of our staff was demonstrated as follows: one cytotechnologist completed a Masters Degree in cytology, another completed the London Health Sciences Centre Leadership Development Program, and the entire technologist team participated in a six month team building exercise. Examples of promotion of leadership skills and professional growth were: two pathologists participated on the executive board of the Canadian Society of Cytology (past and vice chairs), one was appointed as chair of the Canadian Coalition for the Prevention of Cervical Cancer and another was invited to the Scientific Committee of the Quality Management Program and Licensing Service of Ontario.



6a(iv). Report from the Medical Leader of Molecular Pathology

Dr. J.H.M.Knoll

The Molecular Pathology Group (MPG) at London Health Sciences Centre is comprised of Biochemical Genetics, Cytogenetics, Molecular Genetics/Diagnostics and Molecular Pathology and is part of 11 Provincial Regional Genetic Centres. Each laboratory is headed by one specialized MD and/or PhD with technical staff trained in molecular genetics and/or cytogenetics. Our clinical tests have been licensed by the Ministry of Health during the past year and all new tests require licensure.

- The biochemical genetics laboratory provides testing for a wide range of inherited metabolic disorders as well as therapeutic monitoring to many patients. It is a reference laboratory for Southwestern Ontario and serves as a provincial and national laboratory for some tests. It is one of 4 laboratories in the province.



- The cytogenetics laboratory provides routine chromosome analysis/karyotyping and molecular cytogenetic testing (F.I.S.H.) for many inherited diseases (prenatal, perinatal and postnatal) and acquired cancers. It serves more than 1.6 million people in Southwestern Ontario and is one of 11 laboratories in the province.
- The molecular genetics (one of 8 in the province) and molecular pathology laboratories perform a wide variety of gene testing methodologies for inherited disorders, mitochondrial disorders, predictive cancer testing, somatic diseases (such as leukemia and lymphoma) and therapeutic monitoring (for leukemia). They serve as reference laboratories for some tests.

Test volumes (with the same test menu) increased 10-20% (on average) last year and molecular test complexities continue to increase significantly each year. Increases have been greatest in cancer testing (with more than 50% of the workload associated with the Cancer Genetics Program) but changes in provincial newborn screening regimens have also positively impacted test volumes in Biochemical Genetics and Molecular Genetics.

Since completion of the human genome DNA sequence and our increased understanding of it, the numbers of diseases that can be/should be tested are increasing and the testing platforms are changing rapidly. Our challenge is to find resources to keep pace with the scientific advancements and to expand our capabilities to better serve our patient population. During the next year we hope to increase our DNA sequencing throughput and introduce microarray testing (which screens thousands of loci simultaneously) for high resolution detection of constitutional chromosomal abnormalities. In the near future, we need to seek a doctorate level laboratorian, cross-trained in both molecular genetics and cytogenetics, to improve coverage for these discipline specialities.

In addition to clinical laboratory testing, the MPG plays an active and vital role in teaching of undergraduate students, graduate students, medical lab technology students, residents and fellows at LHSC and UWO.

6b. Oral Pathology – Report of Division Head Dr. T. Daley



For the year July 1, 2008 to June 30, 2009, Oral Pathology has been extremely busy. The service work continues to slowly expand, making extra demands on all members of the Division. Tissue diagnostics and patient care continue to be significant, and the Division has gained high standing within both the dental and medical professions, receiving consultation requests from across Ontario, and from across Canada.

Teaching has been demanding as well. Dr. Darling and Dr. Daley have been appointed head of the Oral Diseases Section of the restructuring of the Dental School Curriculum, in addition to their already heavy teaching load. Dr. Darling was a nominee for the Schulich Award for Excellence in Undergraduate Teaching.

Basic research activity has been higher than at any previous time in the history of the Division. Nelly Hashem, supervised by Dr. Darling, defended and received her MSc(Pathology) for her work on kallikreins in salivary gland neoplasia. Drs. Tommy Fok and Edwin Chau, from the Graduate Oral and Maxillofacial Surgery Program, are presently working on research projects under the guidance of Linda Jackson-Boeters, and supervision of Drs. Darling and Daley respectively (the latter in collaboration with Dr. Doug Hamilton, Oral Biology).

Divisional secretary, Ms Jennet Quinton, retired on June 30th after 19 years of excellent service. She has been replaced by Ms Liz Goldhawk.

6c. Medical Microbiology – Report from Division Head Dr. R. Lannigan

The Division of Medical Microbiology is a newcomer to the Department of Pathology this year. It consists of three individuals: Mike John, Zaf Hussain and Rob Lannigan. We are well pleased to be settled in Pathology after a number of attempts over the years to find us an appropriate academic and hospital home. Our division is primarily involved with the diagnostic aspects of bacteriology, mycology, parasitology and virology. In addition we run the medical aspects of the Infection Prevention and Control service for all the institutions in London affiliated with LHSC. It has been a busy year trying to accommodate increasing demands for diagnostic and screening services, particularly relating to Infection control and virology, while still being under pressure to reduce operating budgets. As these budgetary pressures will continue in the face of increasing demands for more sophisticated diagnostic services, meeting this challenge will be our major focus.



Teaching commitments continue in the curricula of medicine, nursing, allied health, environmental sciences and the Ivey business school. Our residency training program is active with one individual at the R3 level and one trainee recently successful in the Royal College exams this year.

Research, at the basic level, is not an area of great activity as time does not allow, however we have carried out sufficient applied research to have presented 19 posters (2006-2009) at national and international conferences. Five of these posters have been in 2009.

6d. Neuropathology – Report of Division Head Dr. L.C. Ang

Although the London Health Sciences Centre is located in London, a city of 350,000, it is the sole teaching institute for one of the most densely populated regions (more than 2 million) in Ontario. Unlike other teaching hospitals in Ottawa, Kingston, Hamilton and Toronto, there are no rivalling institutions that will compete for teaching material. The Windsor hospitals are also part of the teaching facilities of the Schulich School of Medicine & Dentistry and they refer their difficult cases to London. For neurosurgical cases, we have our in-house cases from 9 neurosurgeons as well as referred cases from Windsor, Sudbury, Sarnia, Strathroy, Stratford, Woodstock, Hamilton, Newfoundland, Saudi Arabia and Singapore. The neuromuscular cases come mainly from our neurology colleagues in London but also many from Windsor, Thunder Bay, Sudbury, Regina (Saskatchewan), and Waterloo-Kitchener. There were 234 autopsy brains examined in the year. In addition, Dr. Ramsay obtained consultations and referrals for his forensic neuropathology expertise from all over Ontario. Dr. Ang received a number of the dementia and neurodegenerative cases from South Western Ontario. Dr. Hammond performed needle biopsies for muscle diseases and received referrals from the surrounding regions in South Western Ontario.



The neuropathology laboratory is run efficiently with very well-trained and experienced technologists. The major challenge in the year was to replace two of these very experienced technologists who left the division (one because of retirement and the other due to disability). We look forward to a smooth transition where younger technologists can replace the experienced ones who had left and so far the younger technologists have proved that they are capable of taking up the challenge.

7. Education Programs

7a. Postgraduate Medical Education Programs



The Department of Pathology offers intensive, integrated training programs in Anatomical Pathology, General Pathology, Medical Microbiology and Neuropathology. The programs fulfill the requirements of the Royal College and, with the exception of the Program in Medical Microbiology, are fully accredited. The training programs may be used to embark on a career in either an academic or community hospital setting.

The Department is a combined clinical and basic science department. As such, our training programs offer a range of clinical experiences and opportunities for research. Programs approved by the Royal College of Physicians and Surgeons are offered in:

- I. Anatomical Pathology (Program Director, Jessica Shepherd)
- II. General Pathology (Program Director, Jessica Shepherd)
- III. Medical Microbiology (Program Director, Zafar Hussain)
- IV. Neuropathology (Program Director, Lee Cyn Ang)



Graduating Trainees – 2008-09

Dr. Bassem Moussa – Anatomical Pathology
Dr. Chris Howlett – Anatomical Pathology
Dr. Hasini Reddy – Neuropathology
Dr. Romina Reyes – Medical Microbiology



7a(i). Anatomical & General Pathology Resident Training Program – Program Director Report Dr. J. Shepherd



The first year of PGY2 pathology training is the same for both programs, as there is much overlap in curriculum content and it gives new residents time to decide which program they wish to continue in. There were 8 residents in Anatomical Pathology, and 2 in General Pathology (both PGY2s) in 2008-9. The residents are primarily located at one site, the University Hospital Department of Pathology, and only go off-site for Frozen Section coverage or to attend academic events or rounds. They have the benefit of the Regional Forensic Unit also being on-site, as well as a parallel Neuropathology Program, so there is much beneficial sharing of facilities and educational interaction, as well as the formal rotations offered in these areas.

22 full-time faculty anatomical pathologists participated in teaching and mentoring our residents. All pathologists cover two or more subspecialty areas, as members of subspecialty teams. On any given day, most pathologists are on site and interact with one another in the handling of

service and consult work. This results in a comprehensive and cohesive learning experience for the residents, with much practical exposure and opportunity for role-modeling. In addition to pathology residents, there was a steady stream of off-service residents and medical students doing electives, as well as one observer (an internationally-trained pathologist), such that the working space in the residents' rooms was almost always filled to the seams.

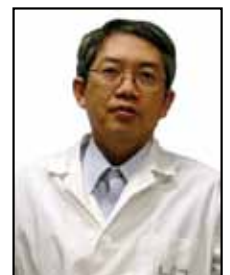
There were many educational rounds, including daily Gross Room rounds, weekly Forensic and Surgical Pathology rounds, fortnightly Subspecialty Microscopy rounds, monthly Journal Club, Grand Rounds and ICU rounds, as well as many on-site and off-site Interdisciplinary rounds and Tumour Boards. Residents were heavily involved in teaching medical students in small group sessions, as well as each other, through oral presentations in rounds and as minor components of their weekly Academic Half Days. Residents, with the exception of the PGY5s and two who were on a leave of absence, all presented their research at the Annual Research Day in May, along with the graduate students in the Pathology department.

In the CaRMS match, both of our PGY1 positions were matched in the first iteration (students from Schulich and Queen's). The program had three PGY2 residents, two graduates from international medical schools, one from a Canadian medical school (Schulich). The PGY3 year consisted of 3 residents, two from Canadian medical schools (Schulich, Dalhousie) and one internationally-sponsored resident (transfer from the Neuropathology program). The two PGY4 residents were a Canadian medical graduate (McGill) and an international medical graduate who had previously completed her MSc. in our department. The final PGY5 year contained a Canadian medical graduate (Schulich) and an international medical graduate. Spring 2009 saw the two PGY5 residents pass their Royal College examinations. One accepted a staff position in the community hospital in Chatham, and the other is currently a hematopathology fellow, firstly in our department, then on to Calgary to complete his training.

7a (ii). Neuropathology Resident Training Program – Program Director Report Dr. L.C. Ang

There are 3 full-time faculty members in Neuropathology (Drs. Ramsay, Hammond and Ang) who are involved in the training of residents in Neuropathology as a specialty, and more than 25 anatomic pathologists involved in the training of these residents in their one year compulsory rotation in the specialty of AP. During the period of report, there were 2 career NP residents in the program, one in PGY5 and one in PGY1. The PGY5 resident completed her training in March 2008 and was successful in her FRCPC Fellowship Examination in June and subsequently obtained a job at Harvard University in Boston. The PGY1 resident was from Saudi Arabia, sponsored by his government, he will return to Saudi after completing his residency. During the same year, 3 AP residents, 2 Neurology residents and 5 Neurosurgical residents completed their electives in our program. There were two attachments from residents of other institutions, one from the University of Calgary and another from Sydney, Australia during the year. A few medical students from UWO and one medical student from McMaster University also spent short periods for research in our program.

In addition to teaching during brain cutting and microscopic sign-out sessions, there is a weekly unknown slide session as well as Journal Club for NP residents. For Anatomic Pathology teaching, residents are required to attend the Wednesday noon rounds with the Anatomic Pathology residents where AP cases are presented and the Forensic Pathology Rounds teaching where general forensic pathology is being taught. There is also the Pathology Grand Rounds every month. For teaching in Clinical Neurosciences, there are the Grand Neuroscience Rounds every Tuesday morning for neurosurgery and neurology cases, the epilepsy rounds and neuroradiology rounds weekly, and neuromuscular rounds monthly, all of which residents are to attend.



7a(iii). Medical Microbiology Resident Training Program – Program Director Report Dr. Z. Hussain



The Medical Microbiology Residency Program of the Schulich School of Medicine and Dentistry at the University of Western Ontario is a five-year training program and is approved by the Royal College of Physicians and Surgeons. Medical Microbiology is the branch of medicine concerned with the prevention, diagnosis, and treatment of infections and communicable diseases. The training is aimed at developing skills in the following spheres of activity:

- Clinical consultations on the investigation, diagnosis and treatment of patients suffering from infectious diseases
- Direction of infection control programs across healthcare facilities
- Prevention and epidemiology of communicable diseases
- The scientific and administrative direction of the diagnostic microbiology laboratory
- Teaching at all levels
- Research in basic and applied Medical Microbiology

The Medical Microbiology Program is one of the smaller programs at Western and usually has only one or two postgraduates at any given time. The program offers a broad-based experience in laboratory and clinical areas; the five year training includes mandatory and elective rotations. The program works very closely with the divisions of adult and paediatric infectious diseases. Infectious Diseases consultants participate actively in structuring and supervision of resident training. Monthly rounds and journal club are jointly held. Participation of ID consultants in academic half days of Medical Microbiology is valuable.

The residency committee strongly believes that a good foundation in clinical medicine, especially in infectious diseases is the best foundation for a Medical Microbiologist.

The program encourages research and most of our residents have had several publications in peer-reviewed national and international journals and made presentations at national and international meetings. Historically, graduates of our program have been successful at the Canadian certification examination of the Royal College of Physicians and Surgeons. They also have found diverse and rewarding careers.

These are very exciting and challenging times for Medical Microbiology and Infection Control. New and emerging infectious agents are being discovered, diagnostic methodology is changing rapidly. Over the past years Medical Microbiologists have been at the fore front in the fight against SARS, Avian and Swine flu and West Nile Virus just to name a few.

2008-09 members of the Medical Microbiology Residency Training Committee:

- Dr. Abdul Hamid Chagla (Director of Public Health Laboratories, London, Ontario)
- Dr. Anne-Marie Bompasaro (Clinical Pharmacist, Infectious Diseases)
- Dr. Zafar Hussain (Chair, and Program Director)
- Dr. Michael John (Medical Director, Infection prevention & Control)
- Dr. Robert Lannigan (Medical Leader, Medical Microbiology, Infection Prevention and Control)
- Dr. Anurag Markanday (Infectious Disease Consultant, Adult)
- Dr. Romina Reyes (Resident Representative)
- Dr. Marina Salvadori (Infectious Disease Consultant, Paediatrics)

7b. Graduate Programs – Report from the Graduate Chair

Dr. Subrata Chakrabarti

Message from the Graduate Chair: As planned, our graduate program has grown considerably in the past years. As of September 2008, we have a total of 31 students, 15 full-time research-based, 8 part-time research based and 8 course-based students. Of these 31 students, 8 are enrolled in a PhD stream. The Department of Pathology is making a firm move towards its plans to further increase the number of graduate students over the next 4 years. To fulfill this goal however, we continue to be challenged by outdated and old laboratory research space and suboptimal facilities. Although with the recent hires of two new basic scientists it will be possible to expand our supervisory pool, we believe that we still are falling short of what is needed to support our newest programs.

	2004-05	2005-06	2006-07	2007-08	2008-09
MSc	13	14	14	21	23
PhD	6	7	6	6	8
Total	19	21	20	27	31



The Programs

Research Based Graduate Program in Pathology

Graduate training leading to both MSc and PhD degrees in experimental pathology is available to graduates in the sciences and to medical, dental and veterinary graduates. Each student is supervised by a graduate faculty member and an advisory committee.

A thesis is required for both MSc and PhD degrees. Every candidate must defend his or her thesis at an oral examination. The course work in these programs, other than required courses, will be selected on the advice of a candidate's supervisory panel. PhD students are required to take a comprehensive examination at the end of the first year. The Graduate Education Committee meets on a regular basis to oversee the program and monitor progress of all students.

Training of students in methods and techniques necessary for their research work takes place in the supervisor's (and/or advisor's) laboratory and adequate progress in the mastering of the required technical skills is monitored by the supervisor and advisory committee.

Our Pathology graduates have gone on to receive positions in academia, industry and government.

Graduate Program in Oral & Maxillofacial Surgery – Part-time only

The Graduate Program in Oral & Maxillofacial Surgery is a six-year multidisciplinary program consisting of advanced studies in Oral & Maxillofacial Surgery, leading to Fellowship candidacy for the Royal College of Dentists of Canada examinations; medical studies leading to an MD degree, and scientific research in Pathology leading to an MSc degree. The program is intended for top level candidates who may wish to pursue an academic career in this field. The Graduate Program in the Department of Pathology, largely through the Division of Oral Pathology, is the designated home graduate program for the MSc portion of this program. At capacity, there will be 6 students in this program.

Graduate Program in Molecular Imaging

The department is now actively involved in the development of an interdisciplinary graduate program in molecular imaging. With partners in LHRI and the Schulich School of Medicine and Dentistry this innovative program will stimulate further growth in our graduate recruitment by increasing both the number of supervisors and the menu of program options for prospective students.

Graduate Program in Ecosystem Health

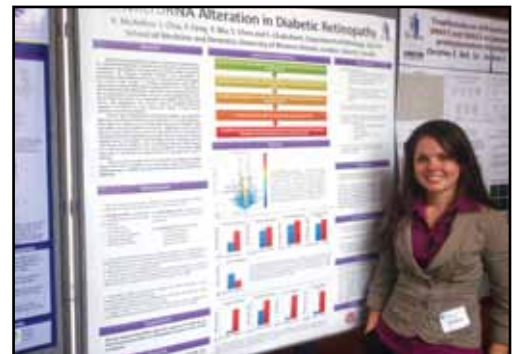
The graduate training program in Ecosystem Health / Environmental Pathology within the Department of Pathology, accepted its first MSc students in 2007. These students enrolled after hearing about the development of the program, in the absence of formal advertising or recruitment. Given a) the current emphasis on relationships between the environment and human/ecosystem health [Nobel Peace Prize to Al Gore, for example]; b) the quality and diversity of the training and expertise of the members of this graduate program; and c) the existence of the Honors specialization program in Pathology and Toxicology, and the one-year Course Based MSc Program in Environment and Sustainability, this new graduate program has the potential to become unique in Ontario.

Course and Practicum Based Graduate Program (Pathologists' Assistants)

The Department of Pathology, Schulich School of Medicine and Dentistry, UWO, offers a full-time course- and practicum-based Graduate Program in Pathology leading to the M.Sc. Degree. This is a 2 year program that will fill a gap in the health care setting by training personnel to function as Pathologists' Assistants in a clinical setting and also may prove attractive to those who wish to gain pathology graduate training in a more clinical setting before going on to professional schools or to a research intensive Doctoral Program in Pathology.

2008-09 Graduating Trainees

Name	Program	Supervisor	Future Plans
Research Based Programs			
Jane Chiu	MSc	Chakrabarti	Medical School, Grenada
Peter Cheung	MSc	Chambers/Tuck	PhD, China
Nelly Hashem	MSc	Daley/Darling	UWO Dentistry
Mansa Krishnamurthy	MSc	Wang	Medical School, Grenada
Laura Caria	MSc	Chambers/Tuck	Medical School, Thunder Bay
Hao Wang	PhD	Garcia/Zhong	Institute Scientist, LHSC
Course & Practicum Based Program			
Dale McKenzie	MSc	Chakrabarti	PA, Grand River Hospital
Erin Moody	MSc	Chakrabarti	UWO Medicine
Nazi Panjwani	MSc	Chakrabarti	PA, York Central Hospital
Sabrina Tung	MSc	Chakrabarti	UToronto Medicine



Graduate Education Committee

Dr. Subrata Chakrabarti, Chair
 Dr. Jack Bend
 Dr. Chandan Chakraborty
 Dr. Weiping Min

Dr. Candace Gibson
 Katie Moisse (Graduate Student Representative)
 Dr. Bertha Garcia (Department Chair)
 Ms. Tracey Koning (Ex-Officio – Graduate Affairs Assistant)

Graduate Faculty

Adams,Paul C	Professor/MD	Department of Medicine
Ang, Lee-Cyn	Professor/MD	Pathology
Bend, John R	Professor	Pathology
Burneo, Jorge G	Assistant Professor/MD	Clinical Neurological Science
Chakrabarti, Subrata	Professor/MD	Pathology
Chakraborty, Chandan	Assistant Professor	Pathology
Chambers, Ann F	Professor	Oncology
Chan, Nancy	Assistant Professor/MD	Pathology
Daley, Thomas D	Professor	Pathology
Darling, Mark R	Assistant Professor	Pathology
Dhanvantari, Savita	Assistant Professor	Medical Biophysics
Feyles, Valter	Associate Professor/MD	Obstetrics & Gynecology
Garcia, Bertha	Professor/MD	Pathology
Gibson, Candace	Associate Professor	Pathology
Gomez Lemus, Jose A	Assistant Professor/MD	Pathology
Hammond, Robert R	Professor/MD	Pathology
Herbert, Carol P	Professor/MD	Family Medicine
Hutnik, Cindy	Associate Professor/MD	Ophthalmology
Jevnikar, Anthony M	Professor/MD	Department of Medicine
Karlik, Stephen	Professor	Pathology
Khan, Zia Ali	Assistant Professor	Pathology
Knoll, Joan H	Professor	Pathology
Koropatnick, D James	Professor	Oncology
Kwan, Keith	Associate Professor/MD	Pathology
Megyesi, Joseph	Associate Professor/MD	Clinical Neurological Science
Min, Wei-Ping	Associate Professor	Surgery
Moussa, Madeleine	Professor/MD	Pathology
Peng, Tianqing	Assistant Professor	Department of Medicine
Rieder, Michael J	Professor/MD	Paediatrics
Rizkalla, Kamilia S	Associate Professor/MD	Pathology
Rupar, Charles Anthony	Professor	Paediatrics
Sexton, Tracy	Assistant Professor/MD	Oncology
Shkrum, Michael J	Professor/MD	Pathology
Strong, Michael	Professor/MD	Clinical Neurological Science
Thind, Amardeep	Associate Professor	Epidemiology and Biostatistics
Trevithick, John R	Professor	Kinesiology
Trick, Charles G	Professor	Department of Biology
Tuck, Alan	Associate Professor/MD	Pathology
Wang, Rennian	Associate Professor	Physiology and Pharmacology
Wehrli, Bret	Associate Professor/MD	Pathology
White, David J.	Professor	Surgery
Xu, Jie	Associate Professor	Pathology
Xuan, Jian-wu	Associate Professor	Surgery
Zhang, Zhu-Xu	Assistant Professor	Department of Medicine

Graduate Education Efforts – Statistics for 2008-2009

Course Number	Course Title	Course Description	Coordinator	Enrollment 2008-2009
MSc and PhD RESEARCH BASED COURSES				
9510	JOURNAL CLUB (1ST YEAR MSc)	This course will emphasize critical review of the literature and also give the student an opportunity to practice his/her presentation skills. Research papers will be assigned for reading and presentation. Each student will be required to make at least two presentations during the year. One of these must consist of a presentation of their own research work. New students will be expected to present their initial thesis proposal presentation during the first four to six months of the course. Students provide written evaluation of one another's presentations. The final grade is assigned by the course co-ordinator based on the student's presentations, participation in and preparation for the seminar and assessment of written evaluations.	Dr. C. Chakraborty	9 (one student WDN)
9511	JOURNAL CLUB (2ND YEAR MSc)	This course will emphasize critical review of the literature and also give the student an opportunity to practice his/her presentation skills. Research papers will be assigned for reading and presentation. Each student will be required to make at least two presentations during the year. One of these must consist of a presentation of their own research work. New students will be expected to present their initial thesis proposal presentation during the first four to six months of the course. Students provide written evaluation of one another's presentations. The final grade is assigned by the course co-ordinator based on the student's presentations, participation in and preparation for the seminar and assessment of written evaluations.	Dr. C. Chakraborty	4
9610	JOURNAL CLUB (1ST YEAR PhD)	This course will emphasize critical review of the literature and also give the student an opportunity to practice his/her presentation skills. Research papers will be assigned for reading and presentation. Each student will be required to make at least two presentations during the year. One of these must consist of a presentation of their own research work. New students will be expected to present their initial thesis proposal presentation during the first four to six months of the course. Students provide written evaluation of one another's presentations. The final grade is assigned by the course co-ordinator based on the student's presentations, participation in and preparation for the seminar and assessment of written evaluations.	Dr. C. Chakraborty	2
9611	JOURNAL CLUB (2ND YEAR PhD)	This course will emphasize critical review of the literature and also give the student an opportunity to practice his/her presentation skills. Research papers will be assigned for reading and presentation. Each student will be required to make at least two presentations during the year. One of these must consist of a presentation of their own research work. New students will be expected to present their initial thesis proposal presentation during the first four to six months of the course. Students provide written evaluation of one another's presentations. The final grade is assigned by the course co-ordinator based on the student's presentations, participation in and preparation for the seminar and assessment of written evaluations.	Dr. C. Chakraborty	1
9240	UNDERSTANDING DISEASE (for both MSc and PhD also CPBGP)	Lectures and case studies dealing with fundamental aspects of disease processes. Subjects include cell injury; inflammation and repair; immunopathology; vascular disorders; and neoplasia. Lectures will be delivered conjointly with undergraduate students in the sciences and biomedical sciences program. Graduate students will have an additional online component that involves review of pathology case studies and multiple choice quizzes. Evaluation based on performance on the mid-term and final examinations, as well as the case study quizzes.	Dr. Candace Gibson	12

Course Number	Course Title	Course Description	Coordinator	Enrollment 2008-2009
MSc and PhD RESEARCH BASED COURSES				
9514	ECOSYSTEM HEALTH	This multi-disciplinary graduate course will include a seminar presentation related to the student's research project, a critical review of one contemporary ecosystem health research article in the peer-reviewed literature, a critique of one article in the popular press (newspaper or Internet), and preparation of a case study involving ecosystem health issues at either the national or international level. There will also be specialist guest lecturers discussing ecosystem health issues from different perspectives to assist in preparation of the case studies.	Drs. Jack Bend and Charles Trick	3
9500	BIOLOGY OF HUMAN CANCER	This course covers recent developments in carcinogenesis, including etiology, control of gene expression, oncogenes, suppressor genes, initiation, progression, mechanisms of chemical carcinogenesis and types of treatment. Offered in alternate years in the Winter term; this course will be offered again in January 2010.	Dr. J. Koropatnick	0
9520	PUBLIC AND PARTNERSHIP IN CANCER RESEARCH	The Public and Private Partnerships in Cancer Research course has been developed in association with the UWO's Richard Ivey School of Business, the Department of Oncology at the Schulich School of Medicine and Dentistry, and the London Regional Cancer Program. The course coordinators are Drs. J. Koropatnick (Department of Oncology, LRCP) and J. Hatch (Ivey Business School). Basic and clinical researchers, industrial research partners, and business faculty will participate as trainers and mentors to develop the ability of cancer researchers to work with the private sector in translating new technology into clinical and community practice. Topics include: business approaches to cancer research and development; securing venture capital funds; appropriate recording, publishing, and disclosing of data to preserve intellectual property in a form appropriate for development by the private sector; generation of appropriate cancer research agreements; when, and when not, to form a company to develop cancer research ideas or products; government and regulatory body requirements for cancer drugs and treatments; and other relevant topics. The course is based on a mixture of lectures, business cases and workshops. The course is open to graduate students and clinical trainees in the CIHR - Strategic Training Program and to other graduate students and clinical trainees with permission of the course coordinators (subject to enrollment limitations). Winter term (January - April). This course will be offered again in January 2010.	Drs. J. Koropatnick and J. Hatch	0
Course and Practicum Based Graduate Program (Pathologists' Assistants)				
9245	DISEASES OF ORGAN SYSTEMS	Pathology 9245B is complementary to the introductory survey course of Pathology – Path 9240A – understanding disease. In this course we will see how all of those general pathological processes that were discussed in the previous course are applied in looking at specific disease of specific organ systems, or systemic pathology. Lecture and case studies.	Dr. Candace Gibson	4
9561	FUNCTIONAL HISTOLOGY	A detailed study of the microscopic structure of human, tissues and organs with emphasis on structure to function relationship as applied to the human disease process. Graduate students attend the lectures and microscopic sessions on a multi-header microscope with pathology faculty. Lectures, assessment is by written examinations.	Dr. Nancy Chan	5 (one student AUD the course)

Course Number	Course Title	Course Description	Coordinator	Enrollment 2008-2009
Course and Practicum Based Graduate Program (Pathologists' Assistants)				
9540	ENVIRONMENTAL PATHOLOGY	The pathology of occupational and environmental diseases, including information on recent developments and basic mechanisms involved in these diseases. Recognition of occupational and environmental diseases, early diagnosis, mechanisms of cell injury and regeneration, and the effects of a wide variety of toxic drugs, chemicals and UV and ionizing radiation are included. Lectures, assessment: written examinations and assignment.	Dr. C. Chakraborty	3
9541	ENVIRONMENTAL PATHOLOGY – SPECIAL TOPIC	Students who have taken Pathol 4400B (Env Path) within the last two years of study will be exempt from taking Path 9450, but will be required to conduct a literature or systematic review or case study on a selected topic in Environmental Pathology. This will be submitted as a written report and assessed by a Pathology faculty member.	Dr. C. Chakraborty	1
9550	INTRODUCTION TO FORENSIC SCIENCES	Examination of the medico-legal framework in investigation of the nature and circumstance of certain deaths. These forensic investigations involve experts in different disciplines assisting the coroner and police in resolving cases. Forensic pathology examines the effects of disease, particularly in sudden death, and effects of various external agents on the human body. Lectures, assessment is by written examinations and assignment.	Dr. M. Shkrum	3
9551	INTRODUCTION TO FORENSIC SCIENCES – SPECIAL TOPIC	Students who have taken Pathol 4500B (For Path) within the last two years of study will be exempt from taking Path 9550, but will be required to conduct a literature or systematic review or case study on a selected topic in Forensic Sciences. This will be submitted as a written report and assessed by a Pathology faculty member.	Dr. M. Shkrum	1
9575	GROSS PATHOLOGY	Students will receive hands-on instruction in how to perform an analysis, description, and dissection of all surgical specimens. This rotation will be supplemented by pathology rounds or small group discussions, as appropriate, to provide students with a complete understanding of the protocols for specimen examination and dissection. The students will be assessed on an ongoing basis by the laboratory supervisor. At the end of these rotations they will be examined in a viva. They will be given a pass/fail grade.	Dr. S. Chakrabarti	4
9570	AUTOPSY ROTATION	Students will receive hands-on instruction in the duties and responsibilities of the Pathologists' Assistant, including organ examination techniques, tissue selection for microscopy, and autopsy reporting. The students will be assessed on an ongoing basis by the laboratory supervisor. At the end of these rotations they will be examined in a viva. They will be given a pass/fail grade.	Dr. S. Chakrabarti	4

Course Number	Course Title	Course Description	Coordinator	Enrollment 2008-2009
Course and Practicum Based Graduate Program (Pathologists' Assistants)				
9585	RESEARCH PROJECT	Students will conduct an independent research project under the supervision of a Pathology faculty member. Independent study, systematic review and analysis of the medical literature, experimental design and analysis, and effective communication skills will be emphasized. Students are required to submit a final written report and oral presentation to the department.	Dr. S. Chakrabarti	4
9560	HUMAN ANATOMY, EMBRYOLOGY (Anatomy course that our students take)	A study of human anatomy, embryology and imaging for M.Sc Clinical Anatomy & Ph.D students. The course consists of dissection and tutorials in gross anatomy, as well as tutorials in embryology. Students should expect to spend at least 6 hours/week in the lab and 2-4 hours/week in tutorials. Imaging will be covered in tutorials and by guest presentations.		4
3800	MICROBIOLOGY & IMMUNOLOGY COURSE (M&I course that our students take)	Microbiology & Immunology 3800 is a course for B.Sc. Nursing students. The fundamental properties and biology of pathogenic microorganisms and host immune responses will be dealt with in the early part of the program and will provide essential knowledge for the understanding of host-microbe interactions and of infectious diseases covered in the second term. Principles and applications of asepsis, sterilization and disinfection, as appropriate to Nursing practice, will be covered in detail. The problem of antibiotic resistance will be emphasized. The major routes of transmission and control of spread of infections will be studied with relevance to hospitals, institutions and the community. The role of the nurse in prevention, detection, control and management of infections will be continuously emphasized.		4
2130	HUMAN PHYSIOLOGY (Physiology course that our students take, if they haven't taken their undergraduate degree)	A survey course outlining the principles of human/mammalian physiology; general properties of the living cell and internal environment; neural, muscular, cardiovascular, respiratory, gastrointestinal, renal and endocrine system; metabolism, reproduction and homeostasis. 2 lecture hours, 1 tutorial hour, 1.0 course.		0

7c. Undergraduate Education – Report from the Undergraduate Chair Dr. Candace Gibson

The Department of Pathology has had a long standing commitment to teaching students at the undergraduate level within the faculties of Science, Medicine and Dentistry, and Health Sciences.

The Department of Pathology offers undergraduate pathology courses and training to medical students, dental students, nursing students, and several undergraduate pathology courses in the joint specialization in Pathology and Toxicology, open to students in the BMSc/BSc programs.

Medicine

As of September 2008, The Schulich School of Medicine & Dentistry's Doctor of Medicine Program runs simultaneously from two sites: London, Ontario and Windsor, Ontario. 123 students are enrolled at the London site, and students each year will complete all of their academic studies



through the Windsor program and graduate from The University of Western Ontario. The Windsor program is a partnership between The University of Western Ontario, The University of Windsor, and the London and Windsor hospitals.

The first two years of the curriculum provide the student with a solid grounding in the basic and clinical sciences. These two years are each divided into a series of systems-based courses:

Year One

- Introduction to Medicine
- Blood & Oncology (Course Co-Chair, Dr. K. Rizkalla)
- Infection & Immunity
- Musculoskeletal System (Course Co-Chair, Dr. B. Wehrli)
- Heart & Circulation (Course Co-Chair, Dr. E. Tweedie)
- Respiration & Airways
- Skin (Course Chair, Dr. M. G. Joseph)

Year Two

- Digestive System & Nutrition
- Emergency Care
- Endocrine & Metabolism
- Neurosciences, Eye & Ear
- Psychiatry & Behavioural Sciences
- Reproduction
- Genitourinary System

In each course there are Pathology lectures, as well as lectures in various other subject areas as appropriate to that system. Pathology faculty play a strong leadership role in these courses.

The third and fourth years of medicine curriculum include a 52 week integrated Clerkship (Medicine 5475), Clinical Electives, and the Transition Period.

Meds IV – Clinical Electives

The Department of Pathology offers an option in Clinical Anatomical Pathology to Phase IV medical students during Blocks I, II, III and IV at each of the teaching hospitals. The student/s may initially observe and later participate in the routine activities of the Clinical Department of Pathology. The student will be assigned to a staff pathologist for direction and supervision. The supervisor will negotiate with the student the terminal objectives of the rotation and the student's learning goals. It is also possible for the student to select a topic of interest for in-depth study during the four week period related to a specific disease process, or specific organ system, or diagnostic procedure, e.g. electron microscopy, immunohistochemistry, cytology, molecular pathology, etc. An elective in Clinical Pathology is looked on favourably by Program Directors of various medical and surgical disciplines.

Dentistry

Within the dental school curriculum, instruction in general and systemic pathology is introduced in the second year. A number of courses in oral pathology are also offered to undergraduate and postgraduate dental students.

Dentistry 5202 - General and Systemic Pathology – Dr. J.A. Gomez, Course Coordinator

Fundamental disease processes and a survey of common disease entities which affect the different organ systems of the human body, knowledge of which is important to the practice of dentistry.

Dentistry 5204 - Oral Pathology – Dr. M. Darling – Course Coordinator

A study of diseases affecting the teeth, oral cavity and related structures. Forensic odontology, the oral manifestations of many systemic diseases, and the systemic manifestations of oral disease are also discussed. This course is taught to second year Dentistry students.

Dentistry 5304 - Oral Pathology – Dr. M. Darling – Course Coordinator

A lecture/seminar course dealing with clinical, microscopic and pathogenic aspects of diseases of, or affecting, the mouth, face and jaws. Students will be examined on basic oral pathology as well as material taught in this course. This course is taught to third year Dentistry students.

Internationally Trained Dentists – ITD5304 – Oral Pathology (Formerly QP385 and QP304)

This course is for the dental students in the Qualifying Program and runs from September – April. The ITD students take this course in conjunction with the Dents 204 and 304 courses.

Nursing

An online course (Pathology 2420A) in general and systemic pathology is offered to the nursing students in the collaborative University of Western Ontario/Fanshaw College BSc Nursing program.

BMSc Undergraduate Program – Pathology & Toxicology

In 2005 Pathology introduced an Honors Specialization and a Specialization in Toxicology & Pathology offered conjointly with the Department of Physiology & Pharmacology. In the following year full administration of the program was transferred to the Department of Pathology and the specializations were renamed Pathology & Toxicology.

Scope of the Program:

We currently teach human pathology to:

- Third year medical sciences, biological sciences and health sciences students
 - Fourth year medical sciences, biological sciences and health sciences students
 - Additionally the content of the undergraduate pathology survey course is taught online to the nursing students in the Collaborative Nursing Program given at UWO and Fanshawe College and to nursing students in the accelerated (compressed time frame) nursing program at UWO
 - A number of graduate students from our own program as well as the program in Clinical Anatomy also take the third year Pathology courses
- We offer two modules in the Bachelor of Medical Sciences (BMSc) program:
- Honors Specialization in Pathology & Toxicology
 - Specialization in Pathology & Toxicology

Students enter these modules in the second year following a general first year taken through the Faculty of Science (that includes introductory chemistry, physics, mathematics and biology courses). The study of Pathology attracts outstanding students and the honors specialization in Pathology & Toxicology has the distinction of having the highest entrance average among the BMSc module.

Undergraduate Course Enrolment Data

Enrolment in the Pathology courses (see appended course listing) has been steady (a peak coincident with the double cohort occurred in 2006-07). Interest in these courses, particularly in the third year introductory survey courses, is high and we expect it to remain at current levels.

Enrolment in the 4th year forensic science course is limited in part because of the sensitive nature of the material (i.e. it is not appropriate as a general interest course) and also because it is given in conjunction with the 4th year medical student elective in Forensic Pathology. The BMSc students receive part of their instruction along with these students.

Undergraduate Course	2004	2005	2006	2007	2008
Path 240A	179	195	196 + 1 grad	162	---
Path 3240A	---	---	---	---	148 + 12 grads
Path 3245B	---	---	---	---	80 + 4 grads
Path 4400B	50	67	60	42 + 2 grad	32 + 3 grads
Path 4500B	26	24 + 1 grad	25	25 + 2 grad	27 + 3 grads
Path-Tox 4980E	---	5	9	10	9

Objectives of our Undergraduate Program:

The objectives of our introductory third year pathology courses (Pathology 3240A and 3245B) are to give students a general knowledge and understanding of disease and to give the student some of the basic descriptive vocabulary of disease processes and obtain an understanding of disease processes and their underlying molecular mechanisms. Pathology 3240A introduces students to disease processes such as injury, inflammation, immunity, infection and neoplasia that are common to many organ systems (i.e. general pathology).

In our advanced courses in the 4th year we offer a more in depth study of two areas of current interest in pathology – environmental pathology and forensic pathology. These course reflect not only the interest and importance of these areas within pathology but also reflect interests and areas of strength in research among our faculty members.

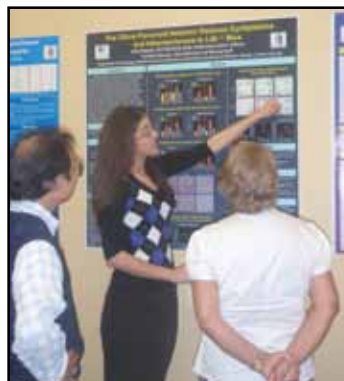
The objective of the 4th year senior research project is to introduce the student to the study of pathology within a basic science or clinical pathology research laboratory under the guidance of a pathology faculty member. The majority of the supervisors of 4th year students are also members of the graduate faculty in Pathology. Additionally several opportunities are offered for clinically based research.

Priorities/Considerations for the Future:

- Review of courses and offerings – possible introduction of a histopathology course (4th year level with ACB 3319 – histology as a prerequisite); stem cell biology course
- Monitor the upcoming changes in Toxicology that will occur in the Dept of Physiology & Pharmacology with retirements, etc – possibility of offering a toxicology course through Pathology
- Increase intake in 2nd and 3rd and 4th years of the module

Pathology & Toxicology – Graduating Students 2008-09

STUDENT	FACULTY SUPERVISOR
Anthony CHOW	Dr. Wei-Ping Min
Ernest EBERT	Dr. Chandan Chakraborty
Daniel ENNIS	Dr. Steve Karlik
Lior FLOR	Dr. T. Peng
Ye (Hailey) JIN	Dr. Cindy Hutnik
Julie KOPPES*	Dr. Murray Huff
Andrea LO	Dr. Jack Bend
Luz ORTIZ	Dr. Zia Khan
Ka Ming YIP	Dr. Zia Khan



*Winner of the Gold Medal in Pathology & Toxicology

Undergraduate Course Listings 2008/2009

Course Number/Name	Course Description	Course Coordinator & # of Lecturers	# of Students
Pathology 2420A "Pathology for Nursing Students"	A survey course providing an understanding of fundamental mechanisms of disease processes. The first half of the course presents pathogenesis of diseases common to all organ systems; the second half concentrates on disease in most of the major organ systems including cardiovascular, respiratory, gastrointestinal, genitourinary, nervous and musculoskeletal systems. Extra Information: 2 lecture hours/wk or equivalent online delivery with 1 tutorial hour/wk, 0.5 course. Enrolment limited to students in the Western Fanshawe College collaborative BScN program.	Dr. Gibson 1 – Online Course overseen by Dr. Gibson	113 UWO 51 CTF 115 FC 11 Anat
Pathology 3240A "Understanding Disease"	A survey course for students in the biomedical sciences, health sciences or science programs. The emphasis is on understanding general mechanisms of disease (e.g. inflammation, immunity, injury, neoplasia, disturbed hemodynamics) in all organ systems. Extra Information: 2 lecture hours, 0.5 course.	Dr. Gibson (7 lecturers)	148 12 Grads
Pathology 3245B "Diseases of Organ Systems"	Building on the knowledge of general disease mechanisms presented in Pathology 3240A, this lecture-based course will introduce students to specific diseases of most major organ systems (e.g. cardiovascular system, respiratory system, renal system, GI system, reproductive system, central nervous system and musculoskeletal system). Extra Information: 2 lecture hours, 0.5 course. Prerequisite(s): Pathology 3240A with a minimum mark of 70%.	Dr. Gibson (10 lecturers)	80 4 Grads
Pathology 4400B "Environmental Pathology"	The pathology of occupational and environmental diseases, including information on recent developments and basic mechanisms involved in these diseases. Recognition of occupational and environmental diseases, early diagnosis, mechanisms of cell injury and regeneration, and the effects of a wide variety of toxic drugs, chemicals and UV and ionizing radiation are included. Extra Information: 2 lecture hours, 0.5 course. Prerequisite(s): Pathology 3240A and 3245B with a minimum mark of 70% in each.	Dr. Chakraborty (12 lecturers)	32 3 Grads
Pathology 4500B "Introduction to Forensic Sciences"	Examination of the medicolegal framework investigating the nature and circumstance of certain deaths. These forensic investigations involve experts in different disciplines assisting the coroner and police in resolving cases. Forensic pathology examines the effects of disease, particularly in sudden death, and effects of various external agents on the human body. Extra Information: 2 lecture hours, 0.5 course. Limited Enrolment. Prerequisite(s): Pathology 3240A and 3245B with a minimum mark of 75% in each. Restricted to students in Year 4 of Pathology and Toxicology modules. Limited spaces available to students in Year 4 of other Basic Medical Sciences and Biological Sciences modules, with permission of the course director.	Dr. Shkrum (13 lecturers)	27 3 Grads
Pathology and Toxicology 4980E "Seminar and Research Project"	Includes: i) theory and practice of laboratory techniques, laboratory safety, appropriate use of experimental models, ii) an independent research project supervised by faculty, iii) oral and written communication skills, including the preparation of a research proposal and final written research project report. Extra Information: Minimum 11 laboratory hours per week plus 1 seminar hour per week. 1.5 course. Prerequisite(s): Pathology 3240A and Pathology 3245B, with a mark of at least 75% in each; Pharmacology 3550A/B and 3560A/B, or the former 357; Physiology 3120; and registration in the Honors Specialization in Pathology and Toxicology.	Dr. Gibson (7 lecturers)	9

Course Number/Name	Course Description	Course Coordinator & # of Lecturers	# of Students
Dents 5202 "General & Systemic Pathology"	<p>COURSE DESCRIPTION</p> <p>This course examines the fundamental processes underlying most human diseases (General Pathology) and specific aspects (etiology, clinical presentation, macroscopic and microscopic features, and pathogenesis) of common human diseases (Systemic Pathology).</p> <p>COURSE OBJECTIVES</p> <p>To make Dental students aware of general pathological processes and mechanisms (i.e. inflammation, neoplasia, wound repair, hemodynamic disturbances, etc.) as well as more common specific systemic diseases. An understanding of basic pathological processes lays the foundation for all aspects of oral and systemic pathology. Knowledge of the mechanism of inflammation and wound repair is inherent in understanding such common dental diseases as pulpitis, the spread of oral infection and periodontal disease. Strong emphasis is placed on general pathology. An awareness of common systemic pathology (i.e. atherosclerosis and heart disease, autoimmune diseases, kidney failure, liver disease, etc.) is crucial to dental treatment planning, pharmacologic intervention and treatment itself.</p>	Dr. Gomez (14 lecturers)	56
Meds I and II Overview	<p>The first two years of the curriculum provide the student with a solid grounding in the basic and clinical sciences. These two years are each divided into a series of systems-based courses: "Introduction to Medicine", "Blood & Oncology", "Skin", "Digestive System & Nutrition", "Emergency Care", "Endocrine & Metabolism", "Heart & Circulation", "Infection & Immunity", "Musculoskeletal System", "Respiration & Airways", "Neurosciences, Eye & Ear", "Psychiatry & Behavioural Sciences", "Reproduction", and "Urinary System". Within each course, various subject areas are presented which integrate the basic and clinical sciences. Students participate in early patient contact that emphasizes a patient-centred approach to medicine, beginning in Clinical Methods in Year 1. At the end of first year, all medical students participate in Rural & Regional Discovery Week to gain clinical experience and exposure to rural and regional medicine in a southwestern Ontario community hospital or clinic. This experience enhances the understanding of the communities where patients live.</p> <p>The weekly timetable is often structured around a case which is introduced at the beginning of each week or subject block. The case provides the stimulus for instruction, and is designed to highlight a number of objectives of the MD program. Throughout the week, the student is exposed to a variety of teaching methods including: small group tutorials, problem based learning, lectures and large group discussions, self-instructional materials, and laboratories. Time is also provided in the curriculum for students to explore career opportunities.</p>		
Meds I	<p>List of First Year Courses</p> <p>Medicine 5115 (weight 1.0) Introduction to Medicine Medicine 5116 (weight 1.0) Infection & Immunity Medicine 5117 (weight 0.25) Skin Medicine 5118 (weight 1.0) Musculoskeletal System Medicine 5119 (weight 1.0) Respiration & Airways Medicine 5120 (weight 1.0) Heart & Circulation Medicine 5121 (weight 1.0) Blood Medicine 5139 (weight 1.0) Patient Centered Clinical Methods I Medicine 5114 (weight 1.0) Community Health I 8 Small Group Discussion Sessions (8 leaders for each session at UWO; and 3 leaders in Windsor)</p>	<p>Dr. M. G. Joseph Dr. B. Wehrl</p> <p>Dr. E. Tweedie Dr. K. Rizkalla (9 instructors through the various courses) Not including SGD teaching</p>	<p>123 at UWO</p> <p>24 at Windsor</p>
Meds II	<p>List of Second Year Courses</p> <p>Medicine 5202 (weight 1.0) Endocrine and Metabolism Medicine 5203 (weight 1.0) Digestive System & Nutrition Medicine 5204 (weight 1.0) Genitourinary System Medicine 5205 (weight 1.0) Reproduction Medicine 5206 (weight 1.0) Neurosciences, Eye & Ear Medicine 5207 (weight 1.0) Psychiatry & the Behavioural Sciences Medicine 5208 (weight 0.25) Emergency Care Medicine 5224 (weight 0.5) Community Health II Medicine 5246 (weight 1.50) Patient Centered Clinical Methods II 4 Small Group Discussion Sessions (8 leaders for each session at UWO only)</p>	<p>n/a (10 instructors through the various courses) Not including SGD teaching</p>	147
Meds III "Clinical Clerkship Electives"	<p>During the third year Clerkship, the student becomes an active member of clinical care teams in the following medical disciplines: family medicine, medicine, obstetrics and gynaecology, paediatrics, psychiatry, and surgery. Under the supervision of faculty and more senior house staff, clerks are given graded responsibility in the diagnosis, investigation, and management of patients in hospital, clinic and outpatient settings. All students in third year are required to complete a community Clinical Clerkship for a minimum of four weeks.</p>	n/a	Varies every year

Course Number/Name	Course Description	Course Coordinator & # of Lecturers	# of Students
Meds IV "Clinical Electives"	Beginning in Year 4, Clinical Electives are arranged entirely by the student in any area of medicine, at Schulich or in other centres. After completion of the Clinical Electives, students return to Schulich in January for the Transition Period which includes a menu of advanced level learning opportunities in basic and clinical sciences. This permits students to further integrate the basic and clinical aspects of medicine in light of their clinical experience.	n/a	Varies every year
Meds IV "Primary Care Pathology"	<p>Objectives:</p> <p>At the end of this course, the students will be able to:</p> <ul style="list-style-type: none"> - Develop an appropriate strategy for the utilization of the laboratory and pathology services available in their community. - Obtain and prepare for delivery to a laboratory the various type of cytological samples - Interpret surgical pathology and cytology reports to obtain the necessary information for proper patient feedback and advice. <p>Participants:</p> <p>This course is most suitable for those considering a career in: Family Medicine, Internal Medicine, Pediatrics, Gynecology and Surgery. It will, however, be appropriate for practically all medical career choices with the exception of research.</p> <p>Format:</p> <p>Large group sessions centered around one or more clinical vignettes followed by a short review of a subject with emphasis on: current issues, utilization of laboratory services, outcomes and prognosis. Wet workshops such as FNAB (fine needle aspiration biopsies) will also be used as well as self-assessment exercises.</p> <p>Credit: 24 hours.</p> <p>Evaluation:</p> <p>A pass/fail system will be used and it will be based on:</p> <ul style="list-style-type: none"> - attendance - 80% (= 20 hours) or more attendance will be required to receive credit for the course - class participation - self-assessment <p>The student will need to fulfill all three requirements in order to obtain a pass.</p>	Dr. Garcia (13 leaders)	94
Meds IV "Forensic Medicine"	<p>Forensic Medicine is a specialized area of Medicine which not only deals with how disease causes sudden death, but also examines the injurious effects of various external agents (e.g., firearms, poisons, blunt trauma, etc.) on the human body. This course will outline various topics of interest and practical importance. The opening lecture will discuss situations requiring notification of the coroner, autopsy consents and death certification. Lectures by various medical experts (pathologists, pediatrician, psychiatrist, family physician examining sexual assault victims, toxicologist) will follow. The course will conclude with steps taken by a medical expert witness in preparing for court.</p> <p>Objectives:</p> <ul style="list-style-type: none"> - To appreciate the responsibilities of a physician regarding the Coroner's Act and being an expert witness at inquests and civil/criminal proceedings. - To define cause and manner of death and to appreciate the responsibilities of a physician in death certification. - To differentiate the goals of the medicolegal vs. hospital autopsy. - To understand how sudden natural unexpected death occurs (including sudden neurological death, sudden infant death syndrome). - To learn about various injury types and mechanisms. - To learn how various drugs and poisons can affect the body. - To understand the assessment and management of injuries arising from domestic violence and sexual assault. - To appreciate the concept of continuity of evidence. <p>Method:</p> <p>Lecture format. Set of lecture notes provided. Conjoint lectures will be held with the Undergraduate Pathology 450B course.</p> <p>Credit: 23 hours.</p>	Dr. Shkrum (13 lecturers)	101

7d. Professional Development – Report of CME Chair Dr. Chris Armstrong



The department of pathology Professional Development Committee oversees a variety of general and subspecialty pathology rounds, and assists in accreditation of these rounds with the Royal College. The Pathology Grand Rounds occurs on a monthly basis, brings in speakers from a variety of centers and disciplines, and is highly regarded by our attendees. Our weekly “interesting case” rounds and numerous subspecialty rounds provide an excellent learning opportunity for our residents and staff.

Efforts of the Professional Development Committee are currently being centered on the implementation of video teleconferencing technologies in our conference room, in order to expand the reach of our educational opportunities to our community hospital colleagues, as well as to staff located at satellite offices throughout London.

2008-09 Pathology Grand Rounds

Date	Speaker	Topic
October 8, 2008	Dr. Bertha Garcia and Dr. Meg McLachlin	“Starting a Pathology Service in Yemen from the Bottom Up” “Healthcare from the Top Down – Experiences with the UK Cervical Screening Program”
November 20, 2008	Dr. Jonathan Izawa (Surgery & Oncology)	“Pathologists are Critical in Improving Outcomes with Radical Cystectomy”
December 10, 2008	Dr. Mike Shkrum	“Inquiry into Pediatric Forensic Pathology in Ontario: Implications for Pathology Practice”
January 14, 2009	Professors Jack Bend and Charles Trick	“Ecosystem Health Research: A Participatory, Community-based, Multidisciplinary Model”
February 11, 2009	Dr. David Ramsay	“What Place Does ‘Evidence Based Pathology’ Have in the Courtroom?”
April 8, 2009	Dr. Mark Darling and Dr. Tom Daley	“Bisphosphonate Osteonecrosis of the Jaws” “Oral Iatrogenic and Factical Injury – Selected Cases”
May 20, 2009	Drs. Bret Wehri and Jason Franklin (Otolaryngology)	“Frozen Section Analysis of Head and Neck Surgical Specimens: Perspectives from Both Sides of the Fence”



8. Research

8a. Message from the Director of Research Dr. Subrata Chakrabarti

Introduction: The Department of Pathology has continued to maintain and grow its research programs and we have major inroads in the plans to enhance our research capability, productivity and impact. To that effect, the Department has been able to build an enhanced faculty complement (both basic and clinical), a significantly larger and more comprehensive graduate program and a small but very productive research faculty. During our recent departmental retreat the Department made a commitment to foster growth in research.

Research Programs: Research in the Department of Pathology includes investigator-driven research, initiated by the core members of the Department, and collaborative research with members of other departments. There is no signature program of the Schulich School of Medicine and Dentistry where the members of the Department of Pathology are not only involved, but are also key players. Listed below are few specific research programs where the Department of Pathology is playing a major role.

Transplant research: Research in transplantation (clinical and experimental) is one of the area of focus and has demonstrated strong growth during the last year. The backbone of the xenotransplantation program continues to count on the expertise of people such as Drs. Bertha Garcia, Hao Wang (cross appointee, Surgery), David White (cross appointee, Surgery), Weiping Min (cross appointee, Surgery), Zhu-Xu Zhang (cross appointee, Medicine). The core laboratory of MOTP's experimental arm resides in Pathology under the Directorship of Dr. Garcia. These researchers are funded from CIHR, HSFO, MOTP, NIH, and other national and international organizations. This research has been successful in producing a large number of publications in high impact journals.

Cancer research: The Department of Pathology has a strong presence in cancer research, both in the experimental and clinical area. The key researchers in this area are Drs. Ann Chambers (cross-appointee, Oncology), Alan Tuck, Chandan Chakraborty (Breast Cancer), Madeleine Moussa and Jose Gomez (Prostate Cancer), Kamilia Rizkalla (hematologic malignancies), David Driman and Jeremy Parfitt (GI and hepatobiliary), Mariamma Joseph (Skin and pulmonary cancers), Meg Mclachlin, Michele Weir (Gynecological cancers), Bret Wehri, Keith Kwan, Lee Cyn Ang, Rob Hammond (Neurological), Tom Daley and Mark Darling (Oral cancers). The researchers in this area have received their funding from CIHR, CBCF, ORF and other national and international organizations. These investigators have created a wealth of publications. Several pathologists are also heavily involved in clinical trials.

Vascular biology research: Vascular biology researchers have focused their research in chronic diabetic complications (Dr. Subrata Chakrabarti), cardiovascular (Dr. Tianqing Peng) and stem cell research (Dr. Zia Khan). This research has continued to receive funding from CIHR, CDA and HSFO. Within this research program a close interaction has been established with Dr. Chandan Chakraborty (also CIHR funded) with respect to signal transduction. The recent recruitment of Dr. Zia Khan to our department has further expanded the scope of vascular biology research. Dr. Khan's research is focused on endothelial progenitor (stem cells) and their role in diabetic



complications and in vascular tumours. Dr. Khan has been awarded funding from CIHR and CDA as well as LHRI.

Environmental pathology research: It is now obvious that oxidative stress and its closely related cousin, nitrosative stress, play significant roles in the initiation and/or the progression of many chronic diseases. Pathology has a large number of researchers who are involved in environmental pathology research and has established a graduate program in ecosystem health. This group has members from several dept including the Departments of Clinical Neurological Sciences (Jorge Burneo); Family Medicine (Carol Herbert, Amardeep Thind); Pediatrics (Michael Rieder, Gideon Koren [Ivey Chair in Molecular Toxicology], and the Faculties of Science (Irena Creed, Biology; Charlie Trick, Biology [Ivey Chair in Ecosystem Health]) and Social Science (Kul Bhatia, Economics; Bradley Corbett, Sociology [Statistics Canada]; Regna Darnell, Anthropology. These new additions to the Pathology Graduate Program complement existing research expertise in the Department (Jack Bend, Subrata Chakrabarti, Chandan Chakraborty, Bertha Garcia and Rob Hammond). The research efforts have received funding from Assembly of First Nations-Health Canada Environmental Contaminants Program Association of Universities and Colleges of Canada, UWO international curriculum funds.

Genetics research: The dept has been successful in the recruitment and repatriation of a highly qualified and seasoned researcher in molecular pathology and cytogenetics from the USA (Dr. Joan Knoll). Dr. Knoll has already received CFI funding. This will further increase our research activity in this area.

Research in Education: Education research is also a large part of our faculty commitment. Our faculty members continue to play key role in the development of innovative research methodologies and implement them at all levels of educations. Drs Garcia and Gibson are leaders in this area.

Others: As mentioned earlier, the areas above represent some of the research activity. A large number of collaborative research is in existence with active and key participation of our departmental members.

Faculty research interests:

Adams*: hemochromatosis liver diseases

Ang: Neurodegenerative and neurotoxic diseases, CNS tumours

Bend: mechanisms of toxicity of endogenous (bilirubin) and exogenous (methylmercury; polycyclic hydrocarbons; persistent organic chemicals or POPs including PCBs, insecticides and dioxins) chemicals; oxidative stress; disulphide proteome; mitochondrial damage; antioxidants of synthetic and natural (e.g. herbal) origin; attenuation of adverse drug reactions

Chakrabarti : Chronic Diabetic Complications, Diabetic Retinopathy, Diabetic Cardiomyopathy, Extracellular Matrix Proteins, epigenetics, natural products.

Chakraborty: Intrauterine Growth Retardation (IUGR), Preeclampsia, Tumor Progression, Cell Migration/Invasion

Chambers*: Molecular Oncology - Mechanisms of tumor progression and metastasis

Daley: Oral Pathology-salivary gland research, clinical research

Darling: Oral Pathology-salivary gland research, clinical research, Salivary gland neoplasia, mucocutaneous diseases

Driman : Gastrointestinal, hepatic and pancreaticobiliary pathology

Garcia: Transplantation, animal models

Gibson: Neurochemical Pathology, CNS Aging & Neurodegeneration Transmitter release

Hammond: Cerebrovascular disease, brain development, high field MRI/neuropathology correlates, neuroinflammation, neuromuscular disease, brain tumour biology

Karlik*: Multiple sclerosis, experimental allergic encephalomyelitis, apoptosis, chemokine signalling, integrin-mediated neuroinflammation, spinal cord trauma

Khan: vascular stem cells, vasculogenesis, angiogenesis, endothelial cells, perivascular cells, diabetes, cancer, extracellular matrix

Knoll: Molecular cytogenetics, medical genetics, cancer genetics, bioinformatics

Koropatnick*: Metallothionein and resistance to radiation and chemotherapeutic drug treatment

McLachlin: Cervical cancer screening, HPV

Min: immunomodulation, transplant tolerance, gene silencing, siRNA therapy

Peng*: Cardiovascular disease, Heart failure

Strong*: Motor Neuron Disease, Neurofilament Metabolism, Aluminum Neurotoxicity

Tuck: Breast cancer, metastasis, progression, cell and molecular biology, translational research

Wang*: Immunomodulation, Transplant rejection, Xenotransplantation

Zheng*: Immunomodulation, Transplant rejection,

(*= indicates cross appointees)

Publication list:

Summary Publication Data 2008-2009

	Peer reviewed journal articles	Books & Book Chapers	Abstracts
Path CTA	49	2	57
Path Basic Scientists	10	7	10
Totals	59	9	67

Summary Grant Funding Data

	# Awards	Total Awards	2008-2009
Externally Funded - PI	18	\$3,659,845	\$1,713,869
Externally Funded – Co-PI	16	\$7,466,789	\$1,778,345
Total External Awards	34	\$11,126,634	\$3,492,214
Internally Funded - PI	12	\$117,330	\$102,166
Internally Funded – Co-PI	0	\$0.00	\$0.00
Total Internal Awards	12	\$117,330	\$102,166
Total Grant Funding	46	\$11,243,964	\$3,594,380

Building of research infrastructure:

Pathology Dept has continued to provide a large number of research infrastructures which continually expand and enrich the researchers in London.

- 1) Tissue preparation facility –UH
- 2) Transplant histology lab
- 3) Tissue and Archives com
- 4) OICR tissue collection
- 5) Morphometry core
- 6) Real-time PCR core
- 7) Shared Multimedia Resource and Teaching Centre (SMART) Centre

Challenges: Although Pathology has continued to make excellent progress in research during the last year, this real growth of research potential has not had a parallel improvement of our infrastructure, i.e. acquisition of quality research space and facilities.

As indicated before, these are truly success stories. However, there are risks involved when the new recruits find themselves trying to operate in substandard facilities and inadequate research space. Furthermore lack of available research funds (due to bad economic times) may also impact negatively on our research endeavors.

Postdoctoral Fellows, Postdoctoral Associates, Visiting Scientists

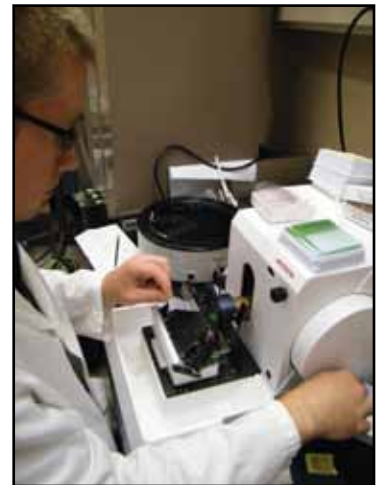
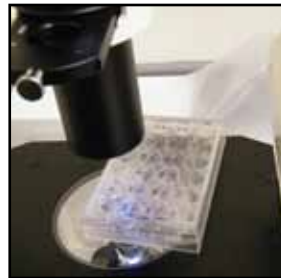
Dr. Biao (Francis) Feng (Dr. Chakrabarti) – pathogenetic mechanisms of chronic diabetic complications

Dr. Subhrojit Sen (Dr. Chakrabarti)

Dr. Chunyan Wang (Dr. Chakrabarti) – chronic diabetes complications

Dr. Biju George (Dr. Chakrabarti) – CIHR Canada Hope Scholar

Dr. Xue Yan (Iris) Xia (Dr. Jack Bend) – anti-oxidant and pro-oxidant mechanisms of constituents of Chinese Traditional Medicine



Robert Zhong Research Seminars

DATE	SPEAKER	TOPIC
January 17, 2007	Dr. William Wall	Liver transplantation: marriage of science and clinical research
March 1, 2007	Dr. David Hill	Strategies for beta cell replacement in the reversal of diabetes-from transplant to regeneration
April 5, 2007	Dr. Jim Lewis	The role of surfactant in acute lung injury and multiorgan failure
October 4, 2007	Dr. Kim Koropatnick	Antisense drugs and reagents in cancer treatment and diagnosis
December 6, 2007	Dr. Guido Filler	FASGS-increased incidence and new therapeutic interventions
February 7, 2008	Dr. Jean-Luc Urbain	From cardiac EKG to cardiac genomics
April 2, 2008	Dr. Subrata Chakrabarti	Pathogenesis of chronic diabetic complications
June 5, 2008	Dr. Victor Han	Insulin-like growth factors are key components of the stem cell niche
October 2, 2008	Dr. Bryan Richardson	Fetal brain development: impact of acute and chronic hypoxia
December 4, 2008	Dr. Jeff Dixon	P2&7 nucleotide receptor in bone: osteoblast friend – osteoclast foe
February 5, 2009	Drs. Ann Chambers & Alan Tuck	Early breast cancer progression to lymphatic metastases: a team approach
April 2, 2009	Dr. Aaron Fenster	3D ultrasound guided prostate interventions
June 4, 2009	Dr. Robert Hegele	Hyperlipidemia: a mosaic of genetic effects

2009 Annual Pathology Research Day Awards

Chair's Award for Best Presentation by a Resident
Mathieu Castonguay

Second Place Award for Best Presentation
 by a Resident
Hector Li

Dr. M. Daria Haust Award for Best Presentation
 by a Graduate Student
Andrew Pepper

Second Place Award for Graduate Students
Yuofeng Zuo

Best Poster Presentation by a Graduate Student
Arthur Lau



Dr. B. Garcia, Mathieu Castonguay, and Dr. M. Moussa



Andrew Pepper, Dr. M. Daria Haust and Dr. M. Moussa

8b. Research Funding

Peer Reviewed External Grants and Funding July 1, 2008 to June 30, 2009

1. Ferguson SS (PI), Bend J (Co-I)
CIHR
Research Resource Grant
\$465,000
4/1/2007 to 3/31/2012
2. Reider M (PI), Bend J (Co-I)
Ontario Ministry of Research and
Innovation/ISOP
\$150,000
3/1/2008 to 4/30/2011
3. Bend J (PI), Jacobs D (PI), Witt N (PI)
Health Canada Regional Environmental
Contaminants Program
\$227,487
6/1/2009 to 5/31/2010
4. Reider M (PI), Bend J (Co-I)
Hospital for Sick Children Foundation
\$64,000
1/1/2008 to 12/31/2009
5. Bend J (PI), Jacobs D (PI)
Health Canada Regional Environmental
Contaminants Program
\$32,000
8/1/2008 to 7/31/2009
6. Reider M (PI), Bend J (Co-I)
Hospital for Sick Children Foundation
\$62,000
1/1/2007 to 12/31/2008
7. De Lasa HI (PI), Bend J (Co-I)
CFI - New Initiative Fund
\$210,000
1/1/2006 to 12/31/2008
8. Bend J (PI)
Medical Research Council/CIHR
\$68,518
4/1/2008 to 9/30/2008
9. Bend J (PI), Jacobs D (PI)
Health Canada Regional Environmental
Contaminants Program
\$40,000
8/1/2007 to 7/31/2008
10. Chakrabarti S (PI)
FTA Ontario Research Fund
Preventative Effects of Ginseng
\$196,000
8/1/2008 to 3/31/2013
11. Chakrabarti S (PI)
Heart & Stroke Foundation of Ontario
VASO & Cardio
\$226,284
7/1/2008 to 6/30/2010
12. Chakrabarti S (PI)
Canadian Diabetes Association
Pathogenesis of diabetic retinopathy.
\$290,000
7/1/2007 to 3/31/2010
13. Chakrabarti S (PI)
CIHR
Oncofetal fibronectin in diabetic heart
disease.
\$559,855
4/1/2006 to 8/31/2008
14. Chakraborty C PI
CIHR
Regulation of Human Trophoblast
Migration
\$230,556
10/1/2004 to 3/31/2010
15. Driman DK (PI)
Novartis Oncology
p16 Alterations in gastrointestinal stromal
tumours - correlation with pathological
grading and malignancy
\$7,500
1/1/2006 to 4/30/2010
16. Garcia BM (PI)
LHSC/Multi Organ Transplant Program
Experimental Transplant Pathology
\$916,408
4/1/2006 to 12/31/2009
17. Garcia BM (PI)
University of Pittsburgh/NIH subcontract
Thromboregulation to prevent thrombotic
microangiopathy.
\$95,601
7/1/2005 to 7/31/2009

18. Gibson C (PI)
Health Canada
Ozone Neurotoxicity
11/1/2004 to 12/31/2008
19. Gomez JA (Co-I), Moussa M (Co-I)
CIHR Team in Image Guided Prostate
Cancer Management
Histopathologic Validation of Pre-operative
Prostate Cancer Imaging
\$ 4,642,805
4/1/2008 to 3/31/2013
20. Hammond RR (PI)
Ontario Institute for Cancer Research,
LHSC-OICR Tumour Bank
\$150,000 annually
1/1/2004 to 12/31/2009
21. Khan ZA (PI)
Lawson Health Research Institute
Vascular progenitor cells in diabetic
complications
\$13,000
12/1/2007 to 12/31/2009
22. Khan ZA (PI)
LHSC/Multi Organ Transplant Program
Circulating Stem Cells for Vascular
Regeneration
\$44,500
5/1/2008 to 4/30/2009
23. McLachlin CM (Co-I)
CIHR
Cervical Cancer Screening in the era of
HPV vaccinations: using mathematical and
economic models to guide screening policy
\$228,000
7/1/2008 to 12/31/2011
24. Xuan J (PI), Moussa M (Co-I)
CIHR
Molecular diagnosis and therapy of
prostate cancer by UTMD (ultrasound
targeted mirububbles destruction)
\$542,449
1/1/2008 to 12/31/2011
25. Xuan J (PI), Moussa M (Co-I)
CIHR
Micro- and molecular imaging for
preclinical trials in genetically engineered
mouse prostate cancer models.
\$114,554
1/1/2005 to 12/31/2008
26. Ramsay DA (PI), Megyesi J (Co-Director)
Brain Tumour Foundation
Canadian Brain Tumour Tissue Bank
\$80,000
1/1/2008 to 12/31/2008
27. Rizkalla K (Co-I)
Glaxo Smith Kline
Single arm open label study with
Tositusimab I-131 radio-radio labeled
iodine in NHL patients previously having
had received Rituzimab
\$14,750
1/1/2008 to 12/31/2008
28. Rakovitch E (PI), Tuck AB (Co-I)
Canadian Breast Cancer Research Alliance
Ductal carcinoma in situ: a population
based analysis.
\$254,875
1/1/2007 to 12/31/2012
29. Chambers A (PI), Tuck AB (Co-I)
CIHR
Supplement to a 5-year CIHR award
MOP42511.
\$50,000
1/1/2009 to 12/31/2010
30. Chambers A (PI), Tuck AB (Co-I)
CIHR
Steps in metastasis: Identifying
therapeutic targets.
\$134,825
1/1/2005 to 12/31/2010
31. Tuck AB (PI), Chambers A (Co-I)
London Regional Cancer Program
Pre-signaling targets to block malignancy-
promoting effects of osteopontin on breast
cancer.
\$49,884
1/1/2009 to 12/31/2010
32. Koropatnick J (PI), Tuck AB (Co-I)
CIHR
London strategic training initiative in cancer
research and technology transfer.
\$300,000
1/1/2003 to 12/31/2009
33. Tuck AB (PI), Rodenhiser (Co-I)
Canadian Breast Cancer Research Alliance
Modeling of critical steps in mammary
tumor progression in 3D culture and in
vivo.
\$432,252
1/1/2005 to 12/31/2008

34. Chambers A (PI), Tuck AB (Co-I)
Ontario Cancer Research Network
Clinical and experimental studies of osteopontin and breast cancer: A translational program to examine its functional contribution to malignancy and its potential as a marker of progression and as a therapeutic target.
\$233,531
1/1/2005 to 12/31/2008
7. Driman DK (PI)
Pathology Internal Funds for Academic Development
Use of an Elastic Connective Tissue Stain (Movat pentachrome) to highlight venous invasion in esophageal and gastroesophageal junction adenocarcinomas
\$5,000
3/1/2009 to 2/28/2011

**Peer Reviewed Internal Grants and Funding
July 1, 2008 to June 30, 2009**

1. Ang LC (PI)
Pathology Internal
Neuropathology Residency Program - teaching and research support
\$3,000 annually
7/1/2008 to 6/30/2009
2. Ang LC (PI)
Pathology Internal Funds for Academic Development
Cytogenetic study for aggressive & recurrent meningiomas, using FISH probes for 1p and 14q \$5,000
1/1/2009 to 12/31/2010
3. Chakrabarti S (PI)
Pathology Internal Funds for Academic Development
DNA fingerprinting in pathology using short tandem repeats
\$5,000
9/1/2007 to 8/31/2008
4. Chakrabarti S (PI)
Pathology Internal Funds for Academic Development
MicroRNA alteration in the squamous cell carcinoma of pharynx
\$5,000
3/1/2009 to 2/28/2011
5. Darling M (PI)
Foundation Western / Oral Pathology
Millennium Fund
Puberty Gingivitis
\$2,649
4/30/2006 to 4/30/2010
6. Driman DK (PI)
Pathology Internal Funds for Academic Development
The Effect of Duration of Formalin Fixation on Immunohistochemistry
\$5,000
8. Gabril MY (PI)
Pathology Internal Funds for Academic Development
Clinical Utility of Kallikrein Proteins as Tumor Markers in Kidney Cancer
\$5,328
5/1/2008 to 4/30/2010
9. Hammond R (PI)
Pathology Internal Funds for Academic Development
High field MRI/Neuropathology correlative studies
\$5,000
8/1/2009 to 7/1/2011
10. Joseph MG (PI)
Pathology Internal Funds for Academic Development
Tycal & Atycal Pulmonary Carcinoids: correlation between mitotic count, Ki-67 index and clinical outcomes in 65 patients
\$2,991
1/1/2008 to 12/31/2009
11. Khan ZA (PI)
UWO Internal / Academic Development Fund
Vascular Stem Cells in Repair and Homeostasis
\$57,112
5/1/2008 to 4/30/2010
12. Khan ZA (PI)
UWO Internal / Schulich GAP
Mediators of Hemangioma Stem Cell Plasticity
\$16,250
4/1/2009 to 3/31/2010

8c. Publications, Book Chapters and Abstracts 2008-2009

Pathology – Peer-Reviewed Journal Articles Published July 1, 2008 to June 30, 2009

1. Narod SA, Neuhausen S, Vichodez G, Armel S, Lynch HT, Ghadirian P, Cummings S, Olopade O, Stoppa-Lyonnet D, Couch F, Wagner T, Warner E, Foulkes WD, Saal H, Weitzel J, Tulman A, Poll A, Nam R, Sun P; Hereditary Breast Cancer Study Group, Danquah J, Domchek S, Tung N, **Ainsworth P**, Horsman D, Kim-Sing C, Maugard C, Eisen A, Daly M, McKinnon W, Wood M, Isaacs C, Gilchrist D, Karlan B, Nedelcu R, Meschino W, Garber J, Pasini B, Manoukian S, Bellati C. Rapid progression of prostate cancer in men with a BRCA2 mutation. *Br J Cancer*. 2008 Jul 22;99(2):371-4. Epub 2008 Jun 24.
2. Kotsopoulos J, Librach CL, Lubinski J, Gronwald J, Kim-Sing C, Ghadirian P, Lynch HT, Moller P, Foulkes WD, Randall S, Manoukian S, Pasini B, Tung N, **Ainsworth PJ**, Cummings S, Sun P, Narod SA; Hereditary Breast Cancer Clinical Study Group. Infertility, treatment of infertility, and the risk of breast cancer among women with BRCA1 and BRCA2 mutations: a case-control study. *Cancer Causes Control*. 2008 Dec;19(10):1111-1119.
3. Keith-Rokosh J, **Ang LC**. Progressive supranuclear palsy: a review of co-existing neurodegeneration. *Can J Neurol Sci*. 2008 Nov;35(5):602-8.
4. Kish SJ, Fitzmaurice PS, Boileau I, Schmunk GA, **Ang LC**, Furukawa Y, Chang LJ, Wickham DJ, Sherwin A, Tong J. Brain serotonin transporter in human methamphetamine users. *Psychopharmacology (Berl)*. 2009 Mar;202(4):649-61.
5. Etwel FA, Reider MJ, **Bend JR**, Koren G. A novel surveillance method for the early identification of idiosyncratic adverse drug reactions. *Drug Saf*. 2008;31(2):169-180.
6. Chiu J, Farhangkhoe H, Xu BY, George B, Chen S, **Chakrabarti S**. PARP mediates structural changes in diabetic cardiomyopathy. *J Mol Cell Cardiol*. 45:385–393, 2008
7. Xu BY, Chiu J, Xin X, Chen S, **Chakrabarti S**. PARP activation and the alteration of vasoactive factors and extracellular matrix protein in the retina and kidney in diabetes. *Diabetes Metab Res Rev*. 2008 Jul-Aug;24(5):404-412.
8. Adams PC, McAlister V, **Chakrabarti S**, Levstik M, Marotta P. Is serum hepcidin causative in hemochromatosis? Novel analysis from a liver transplant with hemochromatosis. *Can J Gastroenterol*. 2008 Oct;22(10):851-853.
9. George B, Chen S, Chaudhary V, Gonder J, **Chakrabarti S**. Extracellular matrix proteins in epiretinal membranes and in diabetic retinopathy. *Curr. Eye. Res*. 34;134-44,2009
10. Majumdar P, Chen S, George B, Karmazyn M, **Chakrabarti S**. Leptin and endothelin-1 mediated increased extracellular matrix protein production and cardiomyocyte hypertrophy in diabetic heart disease. *Diab. Metabol. Res. Rev*. 25:452-63,2009
11. Francis SM, Bergsied J, Isaac CE, Coschi CH, Martens AL, Hojilla CV, **Chakrabarti S**, DiMattia GE, Khoka R, Wang JYJ, Dick FA. A functional connection between pRB and TGF- β in growth inhibition and mammary gland development. *Mol. Cell. Biol.* published ahead of print on 8 June 2009, doi:10.1128/MCB.00473-09.

12. Iacob D, Cai J, Tsonis M, Babwah A, **Chakraborty C**, Bhattacharjee RN, Lala PK. Decorin-mediated inhibition of proliferation and migration of the human trophoblast via different tyrosine kinase receptors. *Endocrinology*. 2008 Dec;149(12):6187-97. Epub 2008 Aug 14.
13. **Chan NG**, Duggal A, **Weir MM**, **Driman DK**. Pathological reporting of colorectal cancer specimens – a retrospective survey in a tertiary care pathology department. *Canadian Journal of Surgery* 2008 Aug;51(4):284-288
14. **Daley TD**, **Darling MR**, **Wehrli B**. Benign triton tumor of the tongue. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod* 2008;105(6):763-766.
15. **Darling MR**, Tsai S, Jackson-Boeters L, Daley TD, Diamandis EP. Human Kallikrein 8 expression in salivary gland tumors. *Head and Neck Pathol* 2008; 2 (3; September) : 169–174
16. Beaton MD, Taylor B, **Driman DK**, **Ainsworth P**, Adams PC. Colonic interposition in a woman with attenuated familial adenomatous polypsis: does the location of the colon affect polyp formation? *Can J Gastroenterol*. 2008 Jul;22(7):634-636.
17. Tangri V, **Driman DK**, Chande N. Latent lymphocytic enterocolitis associated with celiac disease manifesting after resection for colon cancer: Case report and review of literature. *Can J Gastroenterol*. 22(9):771-773, 2008.
18. Abaalkhail F, Castonguay M, **Driman DK**, **Parfitt J**, Marotta P. Lobular capillary hemangioma of the liver. *Hepatobiliary Pancreat Dis Int* 2009;8(3):323-325.
19. Vilos GA, Edris F, Abu-Rafea B, Hollett-Caines J, **Ettler HC**, Al-Mubarak A. Miscellaneous uterine malignant neoplasms detected during hysteroscopic surgery. *J Minim Invasive Gynecol*. 2009 May-Jun;16(3):318-25.
20. Zheng X, Zhang X, Feng B, Sun H, Suzuki M, Ichim T, Kubo N, Wong A, Min LR, Budohn ME, **Garcia B**, Jevnikar AM, Min WP. Gene silencing of complement C5a receptor using siRNA for preventing ischemia-reperfusion injury. *Am J Pathol*. 2008 Oct;173(4):973-980.
21. Rother RP, Arp J, Jiang J, Ge W, Faas SJ, Liu W, Gies DR, Jevnikar AM, **Garcia B**, Wang H. C5 Blockade with Conventional Immunosuppression Induces Long-Term Graft Survival in Presensitized Recipients. *American Journal of Transplantation* 2008; 8: 1129 - 1142.
22. Haeryfar SMM, Lan Z, Leon-Ponte M, Duffy KRL, Ge W, Liu W, Mele T, **Garcia B**, Wang H. Prolongation of cardiac allograft survival by rapamycin and the invariant natural killer T (iNKT) cell glycolipid agonist OCH. *Transplantation* 2008; 86: 460-468.
23. Liu W, Zassoko R, Mele T, Luke P, Sun H, Liu W, **Garcia B**, Jiang J, Wang H. Establishment of duodeno-jejunal bypass surgery in mice: a model designed for diabetic research. *Microsurgery* 2008; 28(3): 197-202.
24. Wang H, Ge W, Apr J, Zassoko R, Liu W, Ichim TE, Jiang J, Jevnikar AM, **Garcia B**. Free bone graft attenuates acute rejection and in combination with cyclosporin a leads to indefinite cardiac allograft survival. *J Immunol* 2009;182(10):5970-5981.
25. Feng B, Chen G, Zheng X, Sun H, Zhang ZX, Xiang Y, Ichim TE, **Garcia B**, Luke P, Jevnikar AM, Min WP. Small interfering RNA targeting RelB protects against ischemia-reperfusion injury. *Transplantation* 2009;May 15;87(9):1283-1289.

26. Ezzelarab M, **Garcia B**, Azimzadeh A, Sun H, Lin CC, Hara H, Kelishadi S, Zhang T, Lin YJ, Tai HC, Wagner R, Thacker J, Murase N, McCurry K, Barth RN, Ayares D, Pierson RN3rd, Cooper DK. The innate immune response and activation of coagulation in alpha1,3-galactosyltransferase gene-knockout xenograft recipients. *Transplantation* 2009;87(6):805-812.
27. Zhang ZX, Wang S, Huang X, Min WP, Sun H, Liu W, **Garcia B**, Jevnikar AM. NK cells induce apoptosis in tubular epithelial cells and contribute to renal ischemia-reperfusion injury. *J Immunol* 2009;181(11):7489-7298.
28. Vanderberg T, Nagi N, **Garcia B**, Kirk C, Gilchrist J, Poirier S, Allen H, Driedger A, Fournie K, Basahi M, Robinsong M. The National Oncology Program: a Yemeni-Canadian partnership. *Hematol Oncol Stem Cell Ther* 2009;2(1):294-298.
29. Suzuki M, Zheng X, Zhang X, Ichim TE, Sun H, Kubo N, Beduhn M, Shunnar A, **Garcia B**, Min WP. Inhibition of allergic responses by CD40 gene silencing. *Allergy*. 2009 Mar;64(3):387-397.
30. Ge W, Jiang J, Baroja ML, Arp J, Zassoko R, Liu W, Bartholomew A, **Garcia B**, Wang H. Infusion of Mesenchymal Stem Cells and Rapamycin Synergize to Attenuate Alloimmune Responses and Promote Cardiac Allograft Tolerance. *American Journal of Transplantation* 2009; 9(8):1760-1772.
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32. Steckley J, Tartaglia MC, Reddy H, Huange S, **Hammond RR**, Hyson C. CNPC: Systemic Lupus Erythematosus and Right Leg Weakness. *Can J Neurol Sci*, 2009 Jan; 36, 98-101.
33. Keith J, Ferguson G, **Hammond RR**. Pituicytoma: Case of the Month. 59-year-old male with panhypopituitism. *Brain Pathol* 2009; Oct;18(4):620-622.
34. Derry KL, Nicolle MN, Keith-Rokosh JA, **Hammond RR**. Percutaneous muscle biopsies: review of 900 consecutive cases at London Health Sciences Centre. *Can J Neurol Sci* 2009;36(2):201-206.
35. Chapman E, Ranger A, Lee DH, **Hammond RR**. Pigmented Pleomorphic Xanthoastrocytoma. *Brain Pathology*, 2009 Apr;19(2):349-52.
36. Mirsattari SM, Keith J, **Hammond RR**, Steven DA. Pathophysiological implications in a case of temporal lobe epilepsy with unusual dual pathology: focal cortical dysplasia of the end folium and hippocampal sclerosis. *Epilepsy Research*, 2009; 84:268-272
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41. Gravel D, Miller M, Simor AE, Taylor G, Gardam M, McGeer A, Hutchinson J, Moore D, Kelly S, Boyd D, Mulvey M, and the Canadian Nosocomial Infection Surveillance Program (**John M, et al**). Healthcare-Associated Clostridium difficile Infection in Adults admitted to Acute-Care Hospitals in Canada: A Canadian Nosocomial Infection Surveillance Program Study. *Clin Infect Dis*. 2009 Mar 1;48(5):568-76.
42. Langley JM, Gravel D, Moore D, Matlow A, Embree J, McKinnon-Cameron D, Conly J, and the Canadian Nosocomial Infection Surveillance Program (**John M, et al**). Study of Cerebrospinal fluid shunt-associated infections in the first year following placement: a Canadian Nosocomial Infection Surveillance Program (CNISP) study. *Infect Control Hosp Epidemiol*. 2009 Mar;30(3):285-8
43. Mahoney MH, **Joseph MG**, Temple C. Topical Imiquimod therapy for lentigo maligna. *Ann Plast Surg*. 2008 Oct;61(4):419-24.
44. **Khan ZA, Chakrabarti S**. Response: Inhibition of p300 and nuclear factor- κ B by curcumin and its role in diabetic nephropathy. *Nutrition* 2009 Mar. 4[Epub ahead of print]
45. Chiu J, **Khan ZA**, Farhangkhoe H, Chakrabarti S. Curcumin prevents diabetes-associated abnormalities in the kidneys by inhibiting p300 and nuclear factor- κ B. *Nutrition*. 2009 Mar 4. [Epub ahead of print]
46. **Khan ZA**, Boscolo E, Picard A, Psutka S, Melero-Martin JM, Bartch TC, Mulliken JB, Bischoff J. Multipotential stem cells recapitulate human infantile hemangioma in immunodeficient mice. *J Clin Invest*. 2008;118(7): 2592-2599.
47. Dudley AC, **Khan ZA**, Shih SC, Kang SY, Zwaans BM, Bischoff J, and Klagsbrun M. Calcification of multipotent prostate tumor endothelium. *Cancer Cell*. 14: 201-211, 2008.
48. Melero-Martin JM, De Obaldia ME, Kang SY, **Khan ZA**, Yuan L, Oettgen P, and Bischoff J. Engineering vascular networks in vivo with human postnatal progenitor cells isolated from blood and bone marrow. *Circ Res*. 103: 194-202, 2008.
49. Martel JA, **McLean CA**, Rankin MD. Best Cases from the AFIP: Melanoma of the Gallbladder. *Radiographics* 2009; 29:291-296
50. Chin JL Ng CK, Touma NJ, Pus NJ, Hardie R, Abdelhady M, Rodrigues G, Radwan J, Venkatesan V, **Moussa M**, Downey DB, Bauman G. Randomized trial comparing cryoblation and external beam radiotherapy for T2C-T3B prostate cancer. *Prostate Cancer Prostatic Dis*. 2008;11(1):40-5. Epub 2007 Jun 19.
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53. **Parfitt JR**, Jayakumar S, **Driman DK**. Mycophenolate mofetil-related gastrointestinal mucosal injury: variable injury patterns, including graft-versus-host disease-like changes. *Am J Surg Pathol* 2008;32(9):1367-1372.
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55. Hsia CC, Howson-Jan K, **Rizkalla K**. Hodgkin lymphoma with cutaneous involvement. *Dermatology Online Journal* 15(5) May 2009
56. Xu J, Souter LH, Chambers AF, Rodenhiser DI, **Tuck AB**. Distinct karyotypes in three breast cancer cell lines --21PTCi, 21NTCi, and 21MT-1 --derived from the same patient and representing different stages of tumor progression. *Cancer Genet Cytogenet*. 2008 Oct;186(1):33-40.
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**Pathology – Abstracts Presented/Published
July 1, 2008 to June 30, 2009**

1. Chin EA, **Ang LC**. Granulovacuolar degeneration in Alzheimer disease and other neurodegenerative diseases. 48th Annual Meeting of the Canadian Association of Neuropathologists, Edmonton, Alberta, September, 2008.
2. Xia XY, Wang XS, Rylett RJ, **Bend JR**. Minimal protective effects of baicalein on t-butyl hydroperoxide-mediated oxidative stress in recombinant HEK 293 cells over-expressing choline acetyltransferase. IXth World Conference on Clinical Pharmacology and Therapeutics, July 27- Aug 1, 2008, Quebec City, Canada.
3. **Bend JR**, Hill JD, Schoeman K, Stephens CV, Darnell R, Jacobs D, Williams NC, Williams R, White D, Corbett B, Herbert CP, Peters J, Tucker MJ, Van Uum S, Rieder MJ, Trick C, Koren G. Ecosystem Health of Walpole Island First Nation: An Area of Concern in the Great Lakes. Poster and invited platform presentation, International EcoHealth Forum 2008, December 1-5, Merida, Mexico.

4. Herbert CP (Presenting Author); Walpole Island First Nation Heritage Centre Team: Jacobs D, White D, Williams NC, Williams R, UWO Ecosystem Health Research Team: **Bend JR**, Corbett B, Darnell R, Herbert CP, Hill J, Koren G, Rieder M, Schoeman K "Health Risk of the Walpole Island First Nation Community from Exposure to Environmental Contaminants: a Community-Based Participatory Research Partnership". 2009 Aboriginal Policy Research Conference, Ottawa, Ontario, March 9, 2009. (online paper).
5. Schoeman K, **Bend JR**, Tanaka T, Koren G. Comparing Fish Consumption Habits and Hair Mercury Content of Women of Reproductive Age. 6th Annual Earth Day Colloquium, UWO, April 17th, 2009.
6. Schoeman K, Tanaka T, **Bend JR**, Koren G. Comparing Hair Mercury Content of Women Reproductive Age with a Lowest-Observable-Adverse-Effect-Level for Neurodevelopmental Effects of Prenatal Mercury Exposure through Maternal Fish Consumption. Canadian Society of Pharmacology and Therapeutics Meeting, June 2009. Saskatoon, SK.
7. **Bend JR**, Oakes GH, Awaysheh A, Dale LB. Micromolar unconjugated bilirubin causes oxidation of the disulfide proteome, apoptosis via mitochondrial signaling and upregulation of several genes involved in ER stress. 6th Canadian Oxidative Stress Conference, May 7-10, 2009, Winnipeg, MA.
8. Wu Y, Chen S, **Chakrabarti S**. Role of big map kinase 1 (BMK1) in glucose induced endothelial dysfunction. Diabetes 57 (suppl. 1) :A537, 2008
9. Chen S, Feng B, George B, **Chakrabarti S**. Mechanism of Extracellular matrix protein mediated outside – in signaling Diabetes 57 (suppl. 1) :A237, 2008
10. Feng B, Chen S, George B and **Chakrabarti S**. MicroRNA and Epigenetic Mechanisms in Cardiomyocyte Hypertrophy in Diabetes. Diabetes 57 (suppl. 1) :A536, 2008
11. Chen S, George B, Feng B, **Chakrabarti S**. Glucose induced alteration of microRNA in endothelial cells Canadian J. Diab. Care (32 Suppl), 11A, 2008
12. DeSouza B, Chiu J, Feng B, George B, **Chakrabarti S**. Hyperhexosemia-Induced Vasoactive Factors and Extracellular Matrix Protein Production in Kidneys are Mediated via NF- κ B. Canadian J. Diab. Care (32 Suppl), 14A, 2008
13. George B, Chen S, Feng B, **Chakrabarti S**. ERCC1-XPF up regulates fibronectin in diabetic complication via epigenetic mechanism. Canadian J. Diab. Care (32 Suppl), 12A 2008.
14. Chiu J, McArthur C, Feng B, Chen S, **Chakrabarti S**. Gender differences in modulating PARP activation and extracellular matrix protein synthesis in the heart in hyperhexosemia Diabetes 58: (suppl.1) A 494, 2009
15. Wu Y, Feng B, Chen S, **Chakrabarti S**. Extracellular signal regulated kinase 5 (Erk5) and miR143 may regulate VEGF in diabetic retinopathy Diabetes 58: (suppl.1) A230, 2009
16. Feng B, Chen S, **Chakrabarti S**. miR320 may regulate glucose induced gene expression in the endothelial cells Diabetes 56: (suppl.1) A496, 2009
17. McCord, J, Jackson-Boeters, L, **Daley, TD, Darling, MR**. Mutant p53 and other possible markers of premalignance in chronic hyperplastic cadidiiasis. Oral Oncology. Head and Neck Oncology and Pathology Suppl 2009;July vol3(1):159.
18. Grushka M, Ching V, **Darling M**, Polak S, Hardin D. Geographic/fissured tongue (GFT) is higher in Burning Mouth Syndrome (BMS) than in TMD patients. Journal of Dental Research, 2008: Vol. 87, Special Issue B, Abstract number 2772.

19. Hashem N, Jackson-Boeters L, **Kwan KF**, Mara TW, Fung K, Yoo J, Franklin J, **Daley TD**, **Darling MR**. Human Kallikrein 4, 7, 10, 14 Expression in Salivary Gland Tumours: Analysis and Follow Up. *Journal of Dental Research*, 2008: Vol. 87, Special Issue B, Abstract number 0700.
20. Nhan C, **Driman DK**, Smith AJ, Hunter A, Mcleod RS. Colorectal cancer surgery and pathology list serv: a clinical practice guideline knowledge exchange strategy. *Canadian Surgery Forum*, Vancouver, BC.
21. Prefontaine M, **Ettler H**, Lanvin D, Bertrand M, Urbain J, Belochine T. Preliminary results of a protocol of lymphatic mapping/sentinel lymphadenectomy using SPECT-CT in vulvar and cervical cancers. *NEAGO Annual Meeting*, Portsmouth, NH, June 12-14, 2009.
22. Prefontaine M, **Ettler H**, Lanvin D, Bertrand M, Urbain J, Belochine T. Added value of SPECT/CT in patients undergoing LM/SL for gynecological cancers. *Society of Nuclear Medicine 56th annual meeting*, Toronto, June 13-17, 2009.
23. Kaur H, **Rizkalla K**, **Moussa M**, **Gabril MY**. Primary follicular lymphoma in undescended testis: a case report. *Canadian Association of Pathologists Annual Meeting*, Toronto, ON, July 11-15, 2008
24. Yousef GM, Youssef Y, Siu M, **Gabril MY**, Romaschin A. Differential protein expression in renal cell carcinoma: biomarker discovery and clinical applications. *Histopathology* 53 (suppl. 1):385 (Abstract #883), 2008
25. Ge W, Jiang J, Baroja ML, Arp J, Zassoko R, Liu W, Jevnikar AM, **Garcia B**, Wang H. Mesenchymal Stem Cells Attenuate Acute Rejection and Synergize with Rapamycin Leading to Cardiac Allograft Tolerance. *Transplantation* 2008; 86 (2S): 135.
26. Ge W, Jiang J, Arp J, Baroja ML, Liu W, Lan Z, Lian D, **Garcia B**, Li XC, Wang H. Prevention of Chronic Allograft Rejection by Blocking OX40 Costimulatory Pathway in Cardiac Transplant Recipients. *Transplantation* 2008; 86 (2S): 164.
27. Baroja ML, Arp J, Ramcharran SI, Brand S, Jevnikar AM, Strejan G, **Garcia B**, Wall WJ, Wang H. The Soluble Extracellular Domain of CD83 is Capable of Generating Regulatory T cells in Non-human Primates. *American Journal of Transplantation* 2008; 8 (Suppl 2): 621.
28. Ge W, Jiang J, Baroja ML, Arp J, Zassoko R, Liu W, **Garcia B**, Wang H. Persistent Engrafted Donor Mesenchymal Stem Cells Synergize with Rapamycin Leading to Cardiac Allograft Tolerance. *American Journal of Transplantation* 2008; 8 (Suppl 2): 485.
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30. Ge W, Jiang J, Baroja ML, Arp J, Liu W, Lian D, Lan Z, **Garcia B**, Jevnikar AM, Li XC, Wang H. Prevention of Chronic Allograft Rejection by Blocking OX40 Costimulatory Pathway in Cardiac Transplant Recipients. *American Journal of Transplantation* 2008; 8 (Suppl 2): 389.
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33. Ge W, Jiang J, Arp J, Baroja ML, Liu W, Lan Z, Lian D, **Garcia B**, Li XC, Wang H. Prevention of Chronic Allograft Rejection by Blocking OX40 Costimulatory Pathway in Cardiac Transplant Recipients. The XXII International Congress of The Transplantation Society, August 10-14, 2008, Sydney, Australia. Abstract #467.
34. Ge W, Ramcharran SI, Arp J, Baroja ML, Lan Z, Jiang J, Liu W, Brand S, Nicolette C, **Garcia B**, Jevnikar A, Wang H. Soluble CD83 mediated suppression of B cell activation and differentiation prolongs murine cardiac allograft survival. American Journal of Transplantation 2009; 9 (Suppl 2): 281.
35. Lan Z, Ge W, Baroja ML, Arp J, Jiang J, Liu W, Brand S, Nicolette C, **Garcia B**, Jevnikar A, Wang H. Modulation of Dendritic Cells by Soluble CD83 Induces Kidney Allograft Tolerance. American Journal of Transplantation 2009; 9 (Suppl 2): 281.
36. Ge W, Jiang J, Baroja ML, Arp J, Liu W, **Garcia B**, Wang H. Donor Derived Mesenchymal Stem Cells Facilitate Kidney Allograft Survival through Attenuation of Alloimmune Response. American Journal of Transplantation 2009; 9 (Suppl 2): 281.
37. Baroja ML, Lan Z, Arp J, Liu W, Strejan G, Brand S, Nicolette C, Wall W, **Garcia B**, Rothstein D, Jevnikar A, Wang H. Soluble CD83: Its Safety and Efficacy in a Non-Human Primate Kidney Allotransplantation Model. American Journal of Transplantation 2009; 9 (Suppl 2): 659.
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39. Baroja ML, Lan Z, Arp J, Liu W, Stregan G, Brand S, Nicolette C, Wall W, **Garcia B**, Rothstein D, Jevnikar A, Wang H. Efficacy in a non-human primate kidney allotransplantation model. American Transplant Congress, Boston, MA, May 30-June 3, 2009.
40. Arp J, Baroja ML, Yang H, Qian H, Huang X, Lan Z, Strejan G, Jevnikar AM, Ayares D, **Garcia B**, Wall W, Wang H. Significant Dampening of Anti-Non-Gal Antibody Responses in Splenectomized Baboons Following B cell Depletion. Xenotransplantation 2009; 16 (5): 369.
41. Ge W, Ramcharran SI, Arp J, Baroja ML, Lan Z, Jiang J, Liu W, Brand S, Nicolette C, **Garcia B**, Jevnikar A, Wang H. Soluble CD83 mediated suppression of B cell activation and differentiation prolongs murine cardiac allograft survival. American Transplant Congress, May 30 –June 3, 2009, Boston, MA. Abstract #309.
42. Lan Z, Ge W, Baroja ML, Arp J, Jiang J, Liu W, Brand S, Nicolette C, **Garcia B**, Jevnikar A, Wang H. Modulation of Dendritic Cells by Soluble CD83 Induces Kidney Allograft Tolerance. American Transplant Congress, May 30 –June 3, 2009, Boston, MA. Abstract #310. (Young Investigator Award Winner for American Society of Transplantation)
43. Ge W, Jiang J, Baroja ML, Arp J, Liu W, Garcia B, Wang H. Donor Derived Mesenchymal Stem Cells Facilitate Kidney Allograft Survival through Attenuation of Alloimmune Response. American Transplant Congress, May 30 –June 3, 2009, Boston, MA. Abstract #311. (Young Investigator Award Winner for American Society of Transplantation)

44. Baroja ML, Lan Z, Arp J, Liu W, Strejan G, Brand S, Nicolette C, Wall W, **Garcia B**, Rothstein D, Jevnikar A, Wang H. Soluble CD83: Its Safety and Efficacy in a Non-Human Primate Kidney Allograft Transplantation Model. American Transplant Congress, May 30 –June 3, 2009, Boston, MA. Abstract #1694.
45. Zhang Z, Wang S, Sun H, Jiang J, Liu W, Mohib K, Huang X, **Garcia B**, Wang H, Mellor AL, Du C, Jevnikar AM. Prolonged Loss of Donor Graft Indoleamine-2,3 Dioxygenase (IDO) Expression Accelerates Kidney Allograft Immune Injury. American Transplant Congress, May 30 –June 3, 2009, Boston, MA. Abstract #357.
46. Warren J, Lian D, Sun H, Liu W, **Garcia B**, Gal A, Appelbaum YJ, Wiener H, Luke P, Zhong R, Wall WJ, Wang H. The Novel Preservation Solution MARS is Superior to UW Solution in Rat Cardiac and Kidney Transplantation Models. The American Urological Association Annual Meeting, Chicago, Illinois, April 25-30, 2009. (The Award Winner for the “Best Poster in Transplantation”)
47. Ge W, Ramcharran SI, Arp J, Baroja ML, Lan Z, Jiang J, Liu W, Jevnikar AM, Brand S, Nicolette C, **Garcia B**, Wang H. Soluble CD83 Mediated Suppression of B-cell Activation and Differentiation Prolongs Murine Cardiac Allograft Survival. Canadian Society of Transplantation Annual Scientific Meeting, March 4-8, 2009, Banff, Alberta. Abstract #31-B. (Basic Science Abstract Award Winner for Canadian Society of Transplantation)
48. Lan Z, Ge W, Baroja ML, Arp J, Jiang J, Liu W, Brand S, Nicolette C, **Garcia B**, Wang H. Modulation of Dendritic Cells by Soluble CD83 Induces Kidney Allograft Tolerance. Canadian Society of Transplantation Annual Scientific Meeting, March 4-8, 2009, Banff, Alberta. Abstract #29-B. (Top-5 Basic Science Abstract Winner)
49. Ge W, Jiang J, Baroja ML, Arp J, Liu W, **Garcia B**, Wang H. Donor Derived Mesenchymal Stem Cells Facilitate Kidney Allograft Survival through Attenuation of Alloimmune Response. Canadian Society of Transplantation Annual Scientific Meeting, March 4-8, 2009, Banff, Alberta. Abstract #9-B.
50. Moussa B, **Gómez JA**. Cystic angiomyolipoma: a rare but distinct variant of renal angiomyolipoma. Poster presentation at Canadian Association of Pathologists Annual Meeting, Ottawa, ON
51. Kaur H, **Haig A**, Nell A, **Weir MM**. Evaluation of 100% Rapid Rescreening of Pap Tests. *Cancer Cytopathol* 114(5)suppl:445A, 2008
52. Cheung CS, Mirsattari SM, McLachlan RS, **Hammond RR**. A Benign Variant of Rasmussen’s Encephalitis. *CCNS*, June 2009.01.29
53. Achiam CC, Fernandes CMB, McLeod SL, John MA, Seabrook JA, Theakston KD, Salvadori M, Milburn S, **Hussain Z**. What is the Prevalence of Methicillin-Resistant *Staphylococcus aureus* in Skin and Soft Tissue Infections presenting to the Emergency Departments of a Canadian Academic Health Care Center? Oral Presentation of the Canadian Association of Emergency Physicians Annual Conference, Calgary, Alberta June 6-10, 2009.
54. Johnston L, Moore D, Graves D, Hirji Z, Henderson E, **John MA**, Langley J, Newman A, Olekson K, Pelude L, Suh K, Taylor G. Surveillance for Central Venous Catheter - Associated Bloodstream Infections (CVC-BSIs) in Intensive Care Units (ICU) in Hospitals Participating in the Canadian Nosocomial Infections Surveillance Program (CNISP). Nineteenth Annual Meeting of The Society for Healthcare Epidemiology of America, March 19-22, 2009 San Diego, California.

55. Dudok D, Olga Wrezel O, **John MA**. The Ethics of Short-term Reproductive Health Education – A Perspective from Arusha, Tanzania. Oral Presentation at the 18th Global Health Education Consortium Conference, Seattle, Washington, April 4-5, 2009.
56. **John MA**, Milburn S, Diagre D, Wilson B, **Lannigan R, Hussain Z**. Susceptibility of Coagulase Negative Species to Telavancin, a New Lipoglycopeptide Antibiotic and Comparison with Vancomycin. 19th European Congress of Clinical Microbiology and Infectious Diseases, Helsinki, Finland, May 16 – May 19, 2009.
57. Reyes RC, Stuart A, Peters G, Catanzariti B, Ainsworth P, **Lannigan R, John MA, Hussain Z**. Use of High-resolution Melting Analysis of the spa Repeat Region for Typing of Methicillin-resistant Staphylococcus aureus Strains. 109th General Meeting, American Society for Microbiology. Philadelphia, PA. May 17 to May 21, 2009
58. **John MA**, Reyes RC, Milburn S, Catanzariti BC, Silver S, Lannigan R, Hussain Z. Comparison of Copan ESwab and Starplex Starswab II for the Detection of Methicillin-Resistant Staphylococcus aureus from Throat and Perianal Specimens. 109th General Meeting, American Society for Microbiology. Philadelphia, PA. May 17 to May 21, 2009
59. Johnston L, Moore D, Pelude L, Langley J, Taylor G, **John MA**, Newton A, Hirji Z, Olekson K, Henderson BA, Suh K, Gravel D. Central Venous Catheter (CVC) Insertion Practices Among Intensive Care Units (ICU) Participating in the Canadian Nosocomial Infection Surveillance Program (CNISP). CHICA-Canada 2009 National Education Conference St. Johns, Newfoundland and Labrador, May 9 - 14, 2009.
60. **John MA**, Milburn S, Diagre D, Wilson B, **Lannigan R, Hussain Z**. Daptomycin Activity against a wide range of coagulase-negative staphylococci and assessment of agar dilution method for determination of daptomycin MICs. 26th International Congress of Chemotherapy and Infection. Toronto, Canada, June 18-21st, 2009
61. Johnston L, Moore D, Gravel D, **John MA**, Taylor G, Pelude L, Henderson E, Hirji Z, Langley J, Newman A, Olekson K, Suh K. Outcomes of central venous catheter (CVC)-related bloodstream infection (BSI) in patients hospitalized in Canadian intensive care units (ICU). 26th International Congress of Chemotherapy and Infection. Toronto, Canada, June 18-21st, 2009.
62. Loeb M, Dafoe N, Mahony J, **John MA**, Sarabia A, Glavin V, Webby R, Smieja M, Earn D, Walter SD. Surgical mask versus N95 respirator for preventing influenza: a randomized trial. Oral presentation, Late breaker session. 26th International Congress of Chemotherapy and Infection. Toronto, Canada June 18-21st, 2009
63. **Parfitt JR**, Jayakumar S, **Driman DK**. Mycophenolate mofetil-related gastrointestinal mucosal injury: variable injury patterns, including graft-versus-host disease-like changes. Canadian Digestive Diseases Week, Montreal, February 2008. Am J Surg Pathol. 32(9):1367-72. Sep 2008.
64. Butts K, Filler G, **Prabhakaran VM**. Elevated Triglycerides do affect Cystatin C recovery. 42nd Annual meeting of the European Society of Pediatric Nephrology (ESPN), September 11-14, 2008, Lyon, France. Abstract published P132. Pediatr Nephrol 2008;23(9):1629.
65. Kaur H, **Rizkalla K, Moussa M, Gabril MY**. Primary follicular lymphoma in undescended testis: a case report. Canadian Association of Pathologists Annual Meeting, Toronto, ON, July 11-15, 2008 (poster presentation)

66. Rodenhiser, DI, Andrews, JD, Kennette, W, Pilon, JM, **Tuck, AB**, Chambers, AF. Multi-platform whole-genome microarray analyses refine the epigenetic signature of breast cancer lymphatic metastasis and its association with gene copy number. Joint Metastasis Research Society-AACR Conference on Metastasis, Vancouver, BC, Aug. 3-7, 2008.
67. Souter LH, Goulet B, Andrews JD, Zhang G, Cook AC, Rodenhiser DI, Chambers AF, **Tuck AB**. Stage-specific changes in gene expression during early breast cancer progression as modeled by the 21T series cell lines. Joint Metastasis Research Society-AACR Conference on Metastasis, Vancouver, BC, Aug. 3-7, 2008.

Pathology – Books & Book Chapters
July 1, 2008 to June 30, 2009

1. Williams GM, **Bend JR**. Simple Aliphatic and Aromatic Sulfides and Thiols (addendum) (First draft). In WHO FOOD ADDITIVES SERIES: 59: Safety evaluation of certain food additives and contaminants. International Programme on Chemical Safety, World Health Organization, Geneva, 2008 pp 175-236.
2. Pronk MEJ, **Bend JR**. Aliphatic, Linear α,β -unsaturated Aldehydes, Acids and Related Alcohols, Acetals and Esters (addendum) (First draft). In WHO FOOD ADDITIVES SERIES: 60: Safety evaluation of certain food additives and contaminants. International Programme on Chemical Safety, World Health Organization, Geneva, 2009. (In press).
3. Abbott PJ, **Bend JR**. Miscellaneous Nitrogen-containing Substances (addendum) (First draft). In WHO FOOD ADDITIVES SERIES: 60: Safety evaluation of certain food additives and contaminants. International Programme on Chemical Safety, World Health Organization, Geneva, 2009. (In press).
4. **Gibson CJ**. Chapter 3: The Canadian Health Care System. In: Fundamentals of Health Information Management (ed. K. Abrams et al), CHA Press, Ottawa, ON, in press.
5. Crook G, **Gibson CJ**, Adam C, Levesque L, O'Reilly-Brunelle B, Hwee J. Chapter 7: Towards an Electronic Health Record. In: Fundamentals of Health Information Management (ed. K. Abrams et al), CHA Press, Ottawa, ON, in press.
6. **Gibson CJ**, Kenward L. Chapter 11: Research Design and Methodology. In: Fundamentals of Health Information Management (ed. K. Abrams et al), CHA Press, Ottawa, ON, in press.
7. **Gibson CJ**. Chapter 12: Secondary Uses of Health Data and Health Databases. In: Fundamentals of Health Information Management (ed. K. Abrams et al), CHA Press, Ottawa, ON, in press.
8. Xuan JW, Lacefield JC, Wirtzfeld LA, Bygrave M, Jiang H, Izawa JI, **Moussa M**, Chin JL, Fenster A. PSP94 gene directed transgenic prostate cancer: three dimensional ultrasound micro-imaging. Hayat ed. Cancer Imaging (Academic/Elsevier Press) Chapter 9 (in press), 2008
9. Evans AJ, Henry PC, Van der Kwast TH, Tkachuk DC, Watson K, Lockwood GA, Fleshner NE, Cheung C, Belanger EC, Amin MB, Boccon-Gibod L, Bostwick DG, Egevad L, Epstein JI, Grignon DJ, Jones EC, Montironi R, **Moussa M**, Sweet JM, Trpkov K, Wheeler TM, Srigley J. Interobserver variability between expert urologic pathologists for extraprostatic extension and surgical margin status in radical prostatectomy specimens. American Journal of Surgical Pathology (in press) Am J Surg Pathol. 2008 Oct;32(10):1503-12

8d. Invited Lectures

Pathology – Invited Lectures July 1, 2008 to June 30, 2009

1. Bend JR. Invited speaker in the symposium, Traditional Chinese Medicine: A Global Approach to be presented at the IXth World Conference on Clinical Pharmacology and Therapeutics. July 27-28, 2008
2. Schoeman, K., Bend JR, Koren, G. Poster and invited presentation, 41st Annual Meeting of the Society of Toxicology of Canada., Fish Consumption during Pregnancy and Mercury: Implications for Fetal Health. November 30-December 6, 2008
3. Bend JR, Hill, J.D, Schoeman, K., Stephens, C.V., Darnell, R., Jacobs, D., Williams, N.C., Williams, R., White,D., Corbett, B., Herbert, C.P., Tucker, M.J., Van Uum, S., Rieder, M.J., Trick, C.,Koren, G. International EcoHealth Forum 2008, Ecosystem Health of Walpole Island First Nation: An area of Concern in the Great Lakes. December 1, 2008
4. Bend JR, Trick C. "Ecosystem health research: a participatory community-based, multidisciplinary model". Pathology Grand Rounds, Schulich School of Medicine & Dentistry, The University of Western Ontario, January 14, 2009
5. Herbert CP (Presenting Author); Walpole Island First Nation Heritage Centre Team: Jacobs D, White D, Williams NC, Williams R, UWO Ecosystem Health Research Team: Bend JR, Corbett B, Darnell R, Herbert CP, Hill J, Koren G, Rieder M, Schoeman K. 2009 Aboriginal Policy Research Conference. "Health Risk of the Walpole Island First Nation Community from Exposure to Environmental Contaminants: a Community-Based Participatory Research Partnership". (online paper) March 9, 2009
6. Bend JR. 6th Canadian Oxidative Stress Conference, Topic: "Micromolar unconjugated bilirubin causes oxidation of the disulfide proteome, apoptosis via mitochondrial signaling and upregulation of several genes involved in ER stress". May 7-10, 2009
7. Chiu J, Chakrabarti S. "Prevention of diabetic nephropathy by curcumin treatment". Abstract presentation, OGIRC Annual meeting, Oct. 2008 London, ON, Canada
8. Sen S, Chakrabarti S. "Prevention of Chronic diabetic complication by ginseng treatment". Abstract presentation, OGIRC Annual meeting, Oct. 2008 London, ON, Canada
9. Chakrabarti S. "Curcumin as a potential therapeutic agent in chronic diabetic complications". Invited talk at the Wenzhou medical college, Wenzhou, P.R China Nov, 2008.
10. Chakrabarti S. "Pathogenesis of diabetic complications: Invited talk at the international symposium on cell signaling and molecular medicine", (to commemorate 150 th birthday of Acharya J.C. Bose and 90th foundation day of Bose Institute. Kolkata, India, Nov. 2008.
11. Chakrabarti S. "Pathogenetic mechanisms and novel treatment targets of chronic diabetic complications". Invited talk at the Dept. of Biophysics and molecular biology, Univ. of Calcutta Science College. Kolkata, India, Nov. 2008.
12. Chakrabarti S. "Oxidative stress mediated DNA damage and epigenetic alterations leading to tissue damage in diabetes – road to identification of novel treatment targets". Invited talk at the Canadian Oxidative Stress Consortium Winnipeg May, 2009.

13. Chakrabarti S, Chen S, Feng B. "Mechanisms of tissue damage and potential novel treatment targets for diabetic cardiomyopathy. Sudden cardiac death and cardiovascular therapy"; invited talk at the 3rd World Conference of International Academy of Cardiovascular Sciences (IACS). , Copenhagen, June 2009.
14. Daley, TD. "Oral iatrogenic and facticial injury-selected cases". Pathology Grand Rounds, Schulich School of Medicine & Dentistry, The University of Western Ontario, April 8, 2009.
15. Darling MR. 2009 Jan 29: Invited Lecture, Oral Squamous Cell Carcinoma. Lambton County Dental Society, Sarnia.
16. Darling MR. "Bisphosphonate induced osteonecrosis". Pathology Grand Rounds, Schulich School of Medicine & Dentistry, The University of Western Ontario, April 8, 2009.
17. Garcia BG. "Starting a Pathology service in Yemen from the bottom up", Pathology Grand Rounds, Schulich School of Medicine & Dentistry, The University of Western Ontario. October 8, 2008
18. Hammond RR. 4th Annual Neuromuscular Review Day, UWO, 2008
19. John MA. "Everyday Risks, Preventable Outcomes: The New Hepatitis A and B Guidelines". Primary Care Updates, London, Ontario. September 20, 2008
20. John MA. "Clostridium difficile Associated Disease". Bach to Basics and Beyond: Middlesex London Health Unit Infection Control Workshop. London, Ontario, September 30, 2008
21. John MA. "Men and STI's: What are the risks? Mens Health Conference. London, Ontario, November 12, 2008
22. John MA. "An Update on Travel Medicine". Bluewater Health Laboratory Symposium, Sarnia, Ontario, May 23, 2009
23. John MA. "An Update on STD's" 31st Annual Guelph Sexuality Conference. Guelph, Ontario, June 16, 2009
24. John MA. "Infection Control and the Laboratory" Labcon 2009. CSMLS National Congress of Medical Laboratory Science, St Johns, Newfoundland, June 21, 2009
25. Khan ZA. "Role of stem/progenitor cells in vascular diseases". Lawson Seminar Series. Lawson Health Research Institute, London ON. April, 2009
26. McLachlin CM. "Healthcare from the top down: experiences with the UK cervical screening program". Pathology Grand Rounds, Schulich School of Medicine & Dentistry, The University of Western Ontario, October 8, 2008
27. Ramsay DA. "Tales from the Crypt: what forensic pathology can tell us about how people get hurt and cannot tell us", (with Mr. T. Breen and Dr. M. Pollanen). Criminal Lawyers Association 2008 Fall Conference: The Science of Crime, Toronto, November 2008
28. Ramsay, D. "What place does evidence based pathology have in the courtroom?" Pathology Grand Rounds, Schulich School of Medicine & Dentistry, The University of Western Ontario, February 11, 2009.
29. Shkrum MJ. "The Forensic Pathologist as Expert Witness: Past, Present and Future". Faculty of Law, The University of Western Ontario, 2008

30. Shkrum MJ. Update: Royal College of Physicians and Surgeons Subspecialty, Certification in Forensic Pathology, Canadian Association of Pathologists Annual Meeting. July, 2008
31. Shkrum, M. "Inquiry into pediatric forensic pathology in Ontario: implications for pathology practice". Pathology Grand Rounds, Schulich School of Medicine & Dentistry, The University of Western Ontario, December 10, 2008.
32. Chambers, A, Tuck, AB. "Early breast cancer progression to lymphatic metastasis: a team approach". Robert Zhong Research Seminar, Schulich School of Medicine & Dentistry, The University of Western Ontario, February 5, 2009.
33. Tuck AB. Early Breast Cancer-how do we stop it (before it "makes tracks")? London Public Library, March 23, 2009
34. Wehrli, B, Franklin, J. "Frozen section analysis of head and neck surgical specimens: perspectives from both sides of the fence". Pathology Grand Rounds, May 20, 2009.



9. Awards and Honours

2008-09

The University of Western Ontario Distinguished University Professorship - Dr. Jack Bend, Pathology, and Dr. Michael Strong, Clinical Neurological Sciences
Stiller Center Prize and Ontario Genomics Precommercialization Investment for single copy probe technology development - Drs. Joan Knoll and Peter Rogan. This was awarded at the Canadian Medical Hall of Fame, April, 2009.

2007-08

Schulich Educator Award
Dr. Mariamma Joseph
Dean's Award of Excellence (Team)
Dr. Weiping Min, Multi Organ Transplant Program (LHSC)
The University of Western Ontario Faculty Scholar
Dr. Subrata Chakrabarti
The USC Teaching Honour Roll Award of Excellence
Dr. Tom Daley for excellence in teaching in Dentistry
The USC Teaching Honour Roll Award of Excellence
Dr. Bertha Garcia for excellence in teaching in Medicine
The USC Teaching Honour Roll Award of Excellence
Dr. Madeleine Moussa for excellence in teaching in Medicine

2006-07

Schulich Educator Award – Dr. Rob Hammond

2005-06

Schulich Educator Award – Dr. David Driman
Schulich Individual Faculty Award – Dr. Subrata Chakrabarti

2004-05

Schulich Distinguished Leader Award – Dr. Bertha Garcia

2003-04

3M National Teaching Award – Dr. Bertha Garcia

2003

UWO/LHSC Department of CNS, Annual Housestaff Teaching Award in Neurology – Dr. Lee Cyn Ang

2001-02

OCUFA Teaching Award – Dr. Bertha Garcia
Schulich Individual Faculty Award – Dr. Tom Daley

1999-00

Edward J. Pleva Award – Dr. Bertha Garcia

Department of Pathology Awards

Department of Pathology Faculty Awards

Dr. M.E. Kirk Award for Excellence in Resident Education

- 2008 David Driman
- 2007 Bret Wehrli
- 2006 Mariamma Joseph

Annual Pathology Research Day Awards

Chair's Award for Best Presentation by a Resident

- 2009 Mathieu Castonguay
- 2008 Chad Luetke
- 2007 Christopher Howlett
- 2006 Julia Keith
- 2005 Jeremy Parfitt

Second Place Award for Best Presentation by a Resident

- 2009 Hector Li
- 2008 Bassem Moussa
- 2007 Bassem Moussa

Dr. M. Daria Haust Award for Best Presentation by a Graduate Student

- 2009 Andrew Pepper
- 2008 Katie Moisse
- 2007 Katie Moisse
- 2006 Amy Cook
- 2005 Shireen Fard

Second Place Award for Graduate Students

- 2009 Yuofeng Zuo (supervisor Dr. Chandan Chakraborty)
- 2008 Yuofeng Zuo (supervisor Dr. Chandan Chakraborty)
- 2007 Hao Wang
- 2006 Teresa Sanelli
- 2005 Isaac Van Huizen

Best Poster Presentation by a Graduate Student

- 2009 Arthur Lau (supervisor Dr. Zhuxu Zhang)
- 2008 Xusheng Zhang (supervisor Dr. Weiping Min)
- 2007 Lesley Souter

Pathology Resident Awards

Dr. Marvin S. Smout Resident Travel Award

- 2005 Jeremy Parfitt
- 2004 Rosamma George
- 2001 Omar Hakim

Pathology Graduate Awards

Dutkevitch Memorial Foundation Graduate Student Travel Award in Pathology

- 2009 Kara McArthur (MSc)
- 2008 Mansa Krishnamurthy (MSc)
- 2007 Nelly Hashem (MSc) and Abudi Awaysheh (MSc)
- 2006 Jane Chiu (MSc), Jessica Saso (MSc) and Sarah-Kim Shields (MSc)
- 2005 Amy Cook (PhD), Isaac Van Huizen (MSc), Harkiran Kaur (MSc)

Dr. Cameron Wallace Graduate Student Award in Pathology

- 2009 Xusheng Zhang (MSc)
- 2008 Mansa Krishnamurthy (MSc)
- 2007 Katie Moisse (PhD) and Yufeng Zuo (PhD)
- 2006 Hana Farhang (MSc)
- 2005 Teresa Sanelli (PhD)

Undergraduate Awards

Fred Lewis Award for the student with the highest mark in the course, Pathology 3240a

- 2009 Brandon Brillon
- 2008 Kun (Eric) Huh
- 2007 Michelle Hanna and Elizabeth Roach
- 2006 Maha Nasr
- 2005 Caroline Albion

Gold Medal Award for the BSc. Pathology/Toxicology student with the highest grade

- 2009 Julie Koppes
- 2008 Amanda Vieira
- 2007 Heidi DeBoer
- 2006 Caroline Albion

PC Shah Scholarship Award

- 2009 Elizabeth Roach
- 2008 Nick Sutherland
- 2006 Erin Chapman
- 2005 Aze Wilson

Colin Anderson Award for the student with the highest mark in the course, Pathology 3240b

- First award will be made in 2010

Pathology is...

...the bridge between basic science and patient care.

...solving life's mysteries.

...the final diagnosis.

...where things come alive!

...the eyes of humanity.

...the temple of truth.

