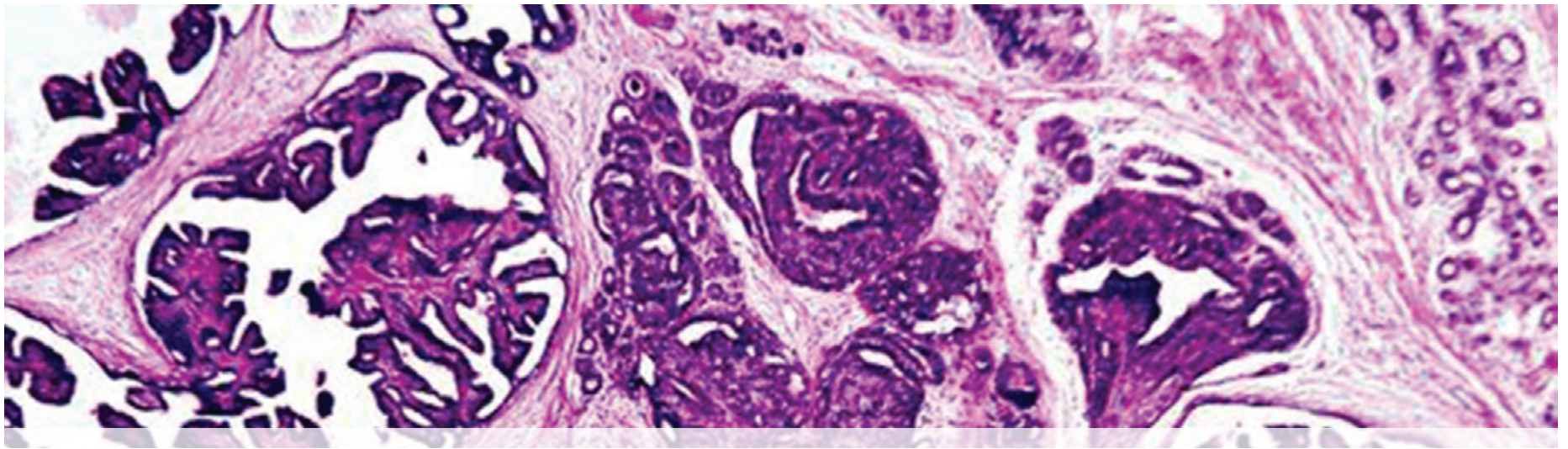


Department of Pathology ANNUAL REPORT 2011



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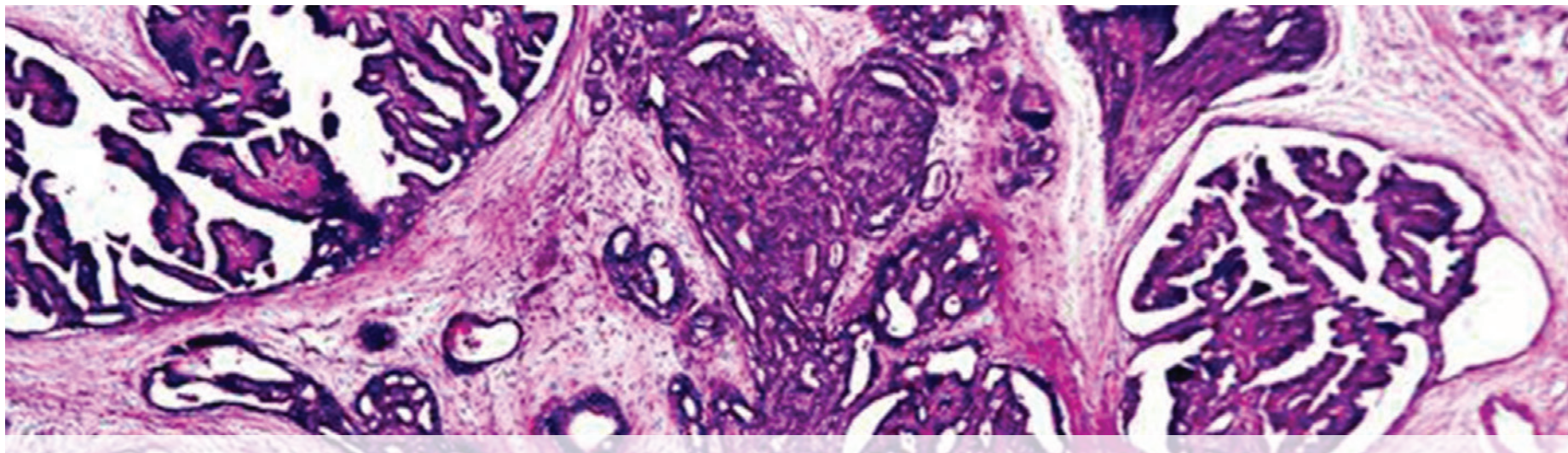
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Section 1 – Our Vision, Mission and Core Values

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.

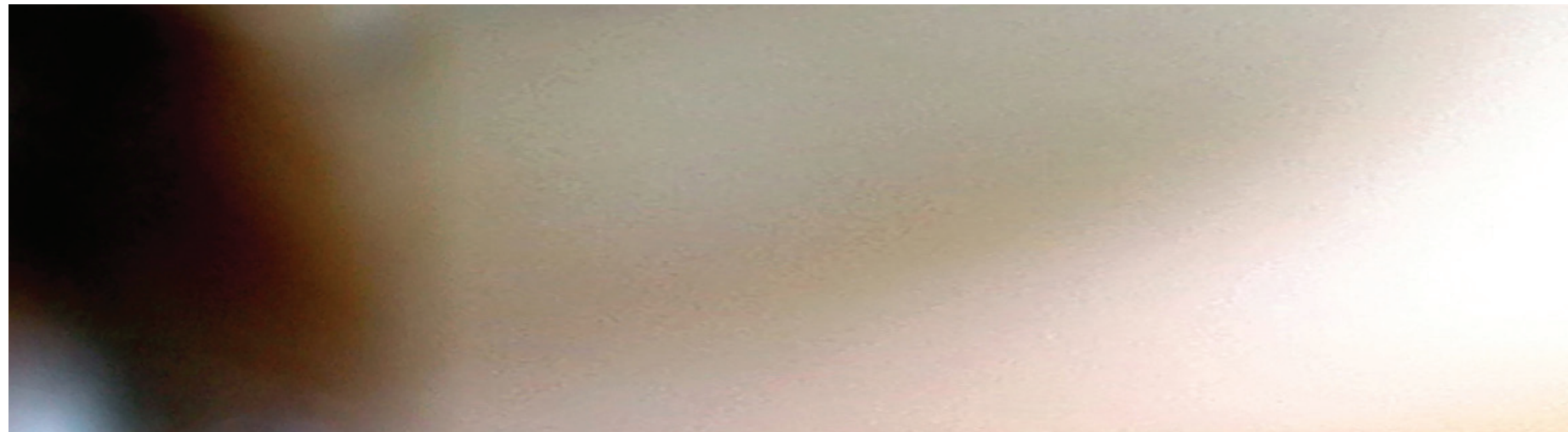
Mission

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)**



Section 2 – Message from the Chair/Chief



I am privileged to present the Annual Report for the Department of Pathology at the University of Western Ontario. We had a remarkable year in which there was a change in the leadership of our department. Dr. Bertha Garcia, who successfully led our department for the last 12 years, stepped down as of July 2011 to devote full time to her role as Vice-Dean, Education at Schulich. Dr. Garcia was the department Chair through challenging times and her leadership resulted in significant growth of the Pathology Department. Her significant contributions have provided a strong foundation for our department as we move forward.

A few years ago we set strategic goals in a long term plan and we continue to fine tune and follow in this direction. As I start my journey leading this great department, I have noted that over the last year our faculty, staff, students and trainees have worked extremely hard to make sure that we successfully achieve our goals in clinical and academic activities.

Our clinical workload continues to be challenging in volume and complexity. We are in the process of integrating the laboratory services of the Middlesex Health Alliance with those of our department. Recently, we restructured several of our administrative functions to improve the efficiency of the pathology and clinical laboratories. Dr. C.M. McLachlin has been appointed as Medical Director of Anatomical Pathology and Dr. V. Prabhakaran as Medical Director of Clinical Laboratories. Dr. McLachlin will oversee Surgical Pathology, Cytology, Autopsy Pathology and Molecular Pathology activities. Dr. Prabhakaran will

oversee Immunology and Biochemistry, Microbiology, Transplant Immunology, Pulmonary Function Laboratories and Hematology activities. In addition, Dr. Helen Ettler has been appointed as Medical Leader of Surgical Pathology and Dr. Keith Kwan as Section Head of Gross and Histopathology laboratories. Working in partnership with other existing leaders, this great team will move forward the academic and clinical missions of Pathology and Laboratory Medicine.

In the academic arena, Dr. Jack Bend and Dr. David Driman have accepted the positions of Research Director and Education Director, respectively. Dr. Chandan Chakraborty has accepted the position of Chair, Research-based Graduate Program, and Dr. Nancy Chan will Chair the Graduate Education Committee for the Pathologist Assistant Program. Both our Graduate programs and Residency programs have continued to demonstrate stellar performance. Department members continue to contribute a large volume of teaching to various undergraduate, graduate and post-graduate programs. This year the Department of Pathology also became the home for the Motor Vehicle Safety (MOVES) Research Team. This unique multidisciplinary team under the leadership of Dr. Mike Shkrum will carry out cutting edge research in this field. Departmental members authored a significant number of research publications, book-chapters and abstracts. The academic contributions of departmental faculty have been recognized with various national and international awards including, appointments as Fellow of the Canadian Academy of Health Sciences (Dr. Jack Bend) and Fellow of the Royal Society of Medicine (Dr. David White). We are very excited about the opportunity for growth in our education, practice and research activities. In the New Year, we will be recruiting a Basic Scientist, a Clinician-Scientist and an Anatomic Pathologist.

I believe that we are in an exciting time. Our Pathology Department shares the common vision of the University of Western Ontario, the Schulich School of Medicine and Dentistry and the London Health Sciences Centre. Our dedicated group of pathologists, educators and scientists, with their commitment to patient care, education and research, are ready to continue on this exciting journey and I am sure that we will make it happen.

On a sad note the department was shocked when our colleague and friend Ms. Kris Milne passed away. Kris was an outstanding media specialist and supported our academic activities over several years. We will all miss Kris very much.

With best wishes for the New Year,

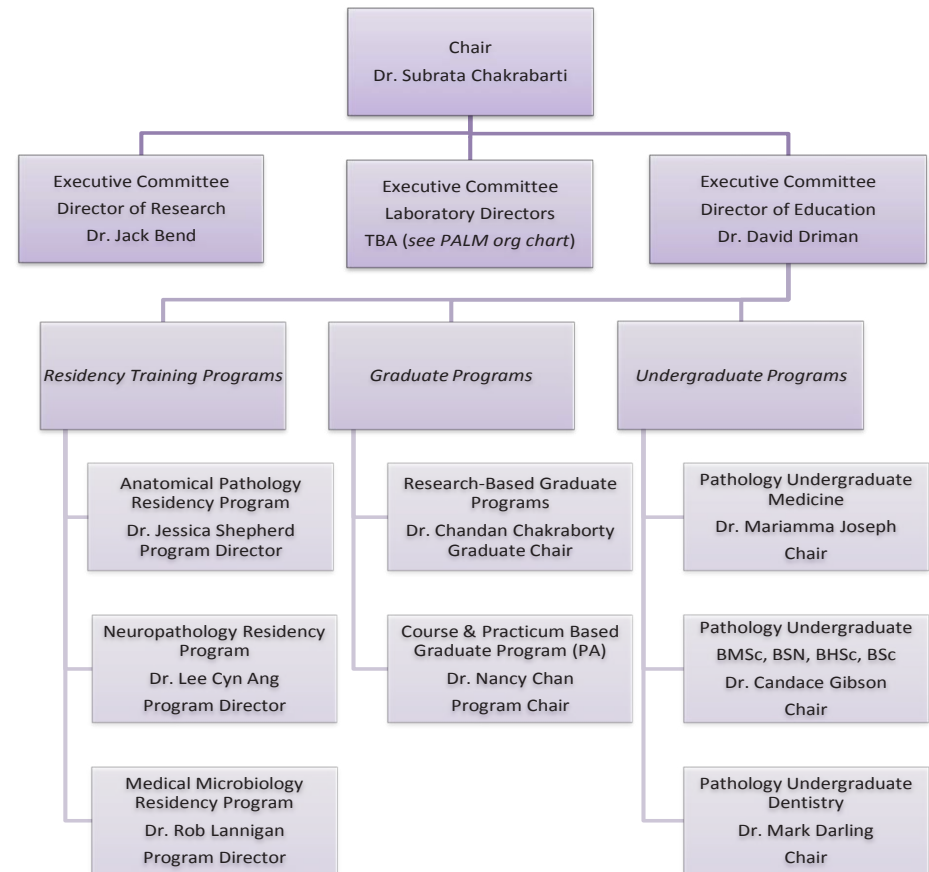
Sincerely,

Subrata Chakrabarti

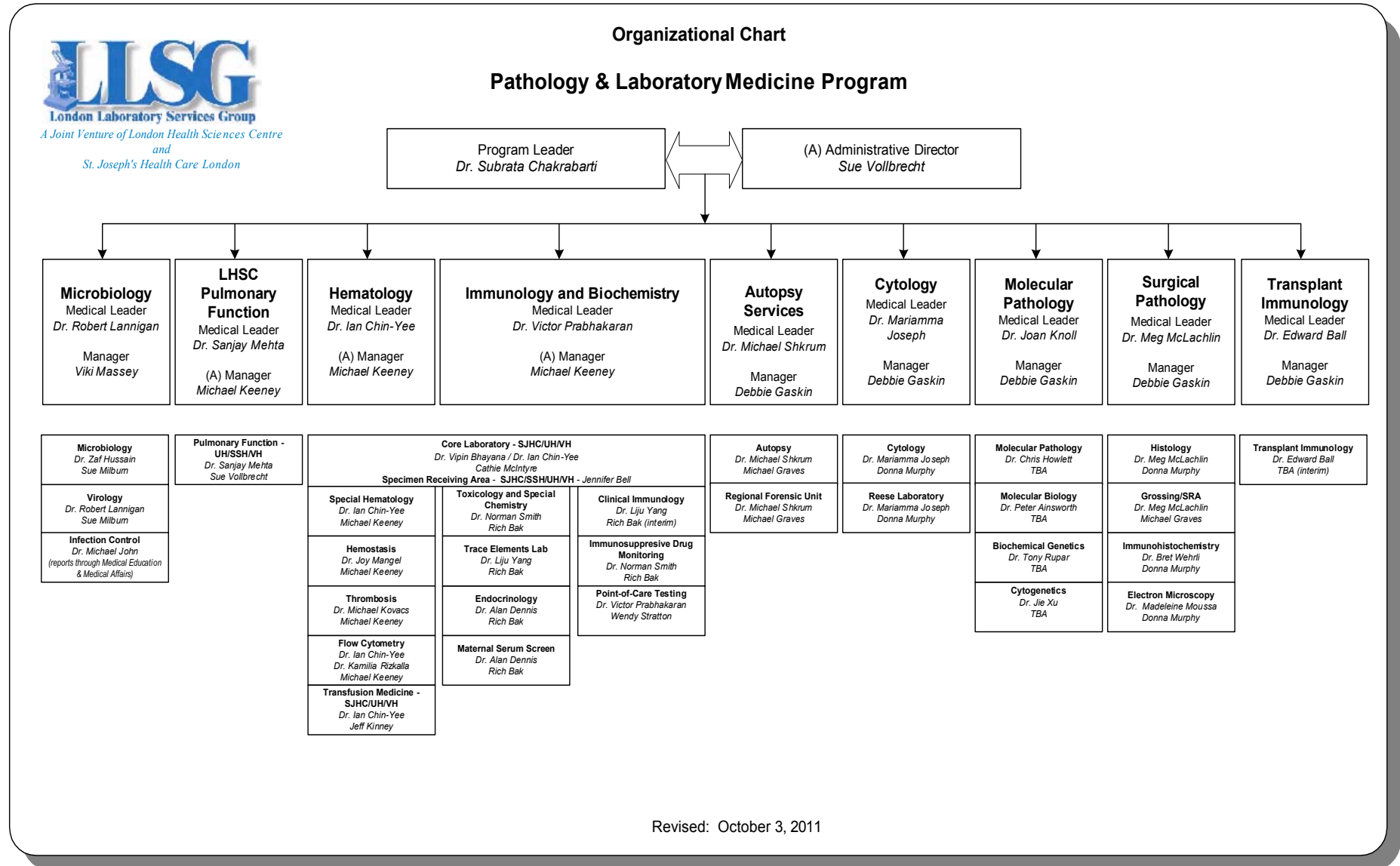


Section 3 – Organizational Charts

3.A – UWO Department of Pathology Organizational Chart

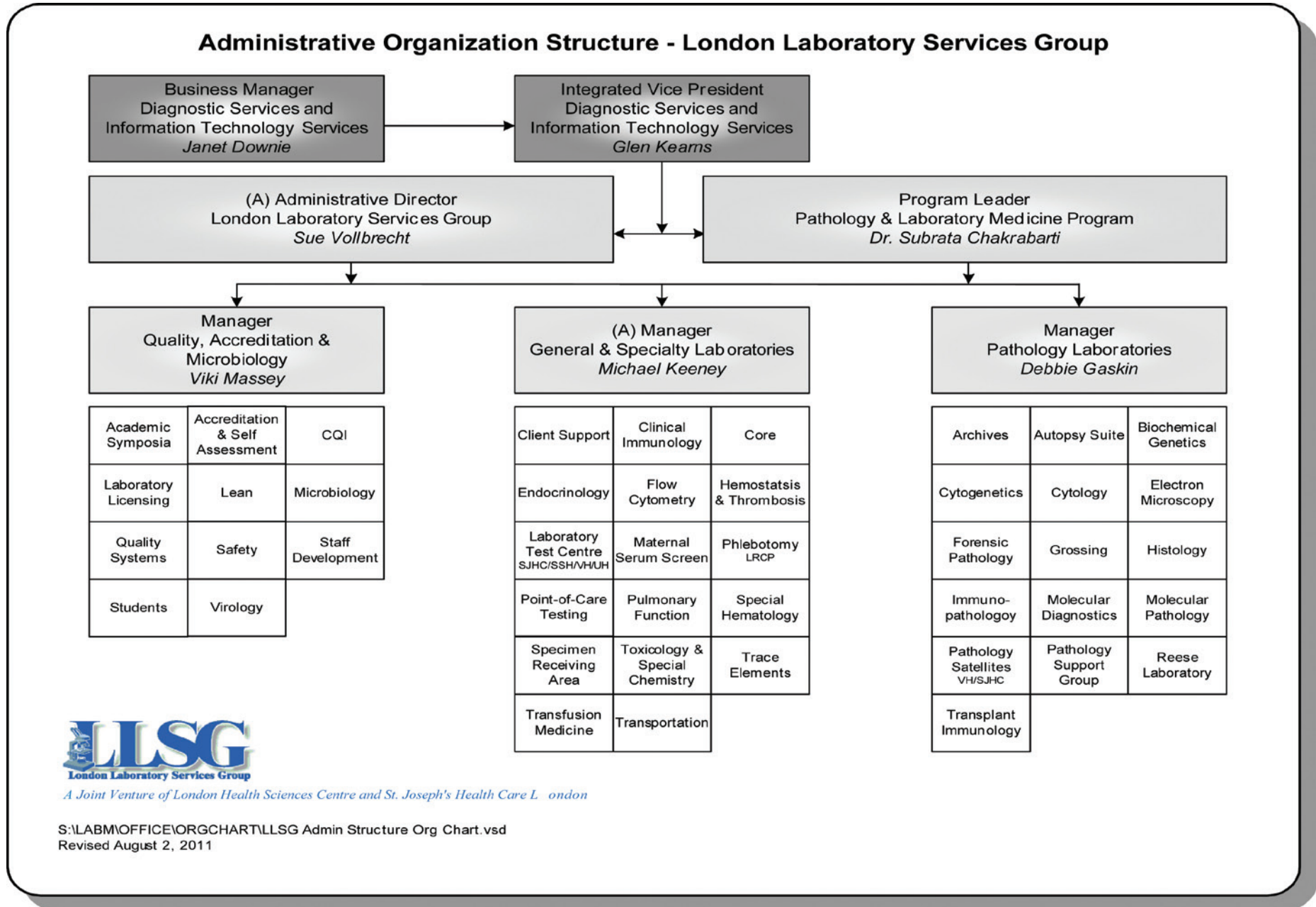


3.B – PALM Program Organizational Chart



Revised: October 3, 2011

3.C – PALM Administrative Staff Organizational Chart





Section 4 – Staff

4.A – Department of Pathology Quick Facts (At September 1, 2011)

FT Clinical Academics: **30**

FT Basic Scientists: **7**

Emeriti: **11**

Cross Appointees: **13**

Institute Scientists: **6**

Adjunct/MD: **14**

Limited-Duty Appointees: **6**

UWO Staff (FT & PT): **7**

Pathology Residents: **14**

Pathology Graduate Students: **36**

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

Undergraduate Medicine

(Meds I, Meds II, Meds IV):

Meds I – **133** UWO / **38** Windsor

Meds II - **129** UWO / **30** Windsor

Meds IV - (Primary Care Pathology – **120**)

(Forensic Medicine – **110**)

Clinical Clerkship / Visiting Electives /

Meds / Observerships:

Meds III Electives – **4**

Meds IV Electives – **3**

Visiting Electives – **6**

Meds I Observership – **1**

Other Electives:

International Observership – **1**

Postgraduate Medicine (Resident Electives):Neuropathology – **7**General Pathology – **8**Anatomical Pathology - **33****Undergraduate Dentistry:**Dents 5304 (Section 001 – **56**; Section 003 – **13**)Dents 5162 – **56**Dents 5170 – **56**Dents 5235 - **56****BScN / Nursing:**Path 2420a (001 UWO) – **125**Path 2420A (003 CTF) – **51**Path 2420a (600 FC) – **113**Path 2420a (special Anatomy Grad Students) – **5****Biological and Health Sciences:****BMSc Pathology & Toxicology: 14**Path 3240a/9240a – **154/16**

(undergrad/grad students)

Path 3245b/9245b – **100/4**Path 4400b/9540b – **40/4**Path 4500b/9550b – **25/5****4.A1 – Primary Appointment in Pathology****Professor and Chair**

Subrata Chakrabarti

Professors

Lee Cyn Ang

Jack Bend*

Tom Daley

David Driman

Bertha Garcia

Rob Hammond

Zafar Hussain

Michael John

Mariamma Joseph

Joan Knoll

Rob Lannigan

Meg McLachlin

Madeleine Moussa

David Ramsay

Kamilia Rizkalla

Mike Shkrum

Associate Professors

Chris Armstrong

Ted Ball**

Mark Darling

Helen Ettler

Candace Gibson

Jose Gomez Lemus

Keith Kwan

Carolyn McLean

Jessica Shepherd

Alan Tuck

Ted Tweedie

Bret Wehrli

Michele Weir

Jie Xu**

Assistant Professors

Chandan Chakraborty

Nancy Chan

Manal Gabril

Aaron Haig

Christopher Howlett

Zia Khan

Jeremy Parfitt

Elena Tugaleva

Professors Emeriti

George Cherian

John. V. Frei

Joe Gilbert

Robert A. Goyer

Collette M. Giraudon

M. Daria Haust

John Kaufmann

Mary Ellen Kirk

D. Ian Turnbull

George Wysocki

In Memoriam

Colin Anderson

* *Distinguished University
Professor*** *Institute Scientists, primary
appointment in Pathology*

4.A2 – 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)
Jim Xuan (Surgery)***

Associate Professors

Cindy Hutnick (Ophthalmology)
Weiping Min (Surgery/Lawson)****
Hao Wang (Surgery/Lawson)****

Assistant Professors

Tisha Joy (Medicine)
Tianqing Peng (Medicine/Lawson) ****
Zhu-Xu Zhang (Medicine/Lawson) ****

*** *Basic Scientists in clinical department*

**** *Institute Scientists in clinical department*

4.A3 – South West Ontario Medical Education Network (SWOMEN) & Rural Region Clinical Adjunct Professors

Pat Allevato (Windsor Regional Hospital)
Saad Awad (Chatham Kent)
Ram Gidwani (Bluewater Health)
Omar Hakim (Windsor Regional Hospital)
Dong Liu (Woodstock General Hospital)
Rosemary Lubynski (Bluewater Health)
Marven Oxley (Windsor Regional Hospital)
Bassem Moussa (Chatham Kent Health Network)
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)

4.A4 – Limited Duties Appointees

Peter Ainsworth (UWO, Pediatrics)
Edith Arany (Medicine) Assistant Professor
Tyrrel de Langley (ACVS) Assistant Professor
Victor Prabhakaran (UWO, Biochemistry)
David White, Professor, Post Retirement
Xiufen Zheng (Surgery) Adjunct Research Professor



4.B – UWO Pathology Staff

The UWO staff team is a dedicated group of skilled individuals, who work in the background to support the academic and research missions of the department. 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.



Cheryl Campbell (Undergraduate Program Assistant), Tracey Koning (Graduate Program Assistant), Susan Stewart (Residency Program Assistant), Mair Hughes (Administrative Officer), Linda Jackson-Boeters (Departmental Technician), Kathilyn Onn (Media Specialist), Gail Heslinga – on vacation (Receptionist / Administrative Assistant).



We were thrilled this year when Linda Jackson-Boeters was awarded the Dean's Award of Excellence for Staff. Linda's positive outlook and commitment to service make her a pleasure to work with and truly deserving of this honour. Congratulations Linda!



4.C – In Memoriam

Our friend and colleague, Kristine Milne passed away on Saturday April 30, 2011 at home, surrounded by the love and care of great friends, her son Nathan, and her beloved dog Ruby.

Kris had a long and very dedicated career with the Department of Pathology which she joined in 1974 as a part time Library Assistant after completing her Audio Visual Technology diploma at Fanshawe College. Kris completed her Honours B.A. in Visual Arts at Western while working full time. She was promoted in 2000 to Media Specialist.

Kris supported the faculty, clinicians, graduate students and residents in the Department of Pathology, in the production and use of visual teaching aids for their teaching and research. Kris was also well known to the Schulich and Western communities for running a large format printing service, as the UWOSA representative on the UWO Staff Development Steering Team and for teaching media workshops for Schulich Faculty Development. Her sense of humour, positive outlook and her commitment to service made Kris a pleasure to work with.





Section 5 – Pathology & Laboratory Medicine Program

5.A – Report from Administrative Director (A), Sue Volbrecht

The Pathology & Laboratory Medicine Program (PALM), at the London Health Sciences Centre and St. Joseph's Health Care London, provides a range of routine and specialized laboratory testing and clinical consultation to support the diagnosis and treatment of patients within southwestern Ontario, as well as nationally and internationally.

The following are some highlights from PALM for the past twelve months:

Laboratories on the Move

Nine specialized laboratories were relocated from various London hospital sites to the 10th floor, B wing tower, Victoria Hospital at the end of 2010. The moves were part of the Milestone 2 Phase 2 (M2P2) city-wide hospital restructuring project. With the best views in the city, this new 27,400 sq. ft. space is occupied by the clinical immunology, molecular diagnostics, molecular pathology, trace elements, toxicology & special chemistry, microbiology/virology, cytogenetics, endocrinology, and maternal serum screening laboratories. Consolidation has brought together technologists, scientists, and laboratory medical staff to share ideas, equipment, and resources; which promotes opportunities to improve process using LEAN methodology and promotes enhancements to patient care.

Laboratory Information System

The transplant laboratory and information technology services have been working diligently to bring human leukocyte antigen (HLA) testing to the Cerner clinical information system. The go live date was March 28, 2011. HLA orders are now available for on-line ordering through PowerChart and clinical staff with the proper access permissions will be able to view HLA results in PowerChart.

Immunohistochemistry Laboratory

The immunohistochemistry laboratory at UH has undergone significant changes in 2010. The lab acquired three new Dako Autostainer Link 48 automated immunohistochemical stainers along with 4 PT Link pretreatment modules. The Dako Autostainer Link 48 stainers utilize Dako's most recent software and connectivity options to improve workload management while maintaining optimal staining results. The PT Link modules allow the entire pre-treatment process of deparaffinization, rehydration, and antigen retrieval to be combined into a 3-in-1 procedure.

New Voice Recognition System

At University Hospital, a voice recognition system called Dragon was implemented for 8 pathologists' assistants in the gross room. Prior to this implementation, the pathologist assistants dictated gross descriptions for surgical specimens on cassette tapes which were later transcribed. The new system now directly captures dictations electronically which is then reviewed instantly by the pathologist's assistant. This information is copied to the 'gross description' section of the electronic pathology report. Computers at each station provide improved access to applications required by staff during the gross examination process.

Blood Transfusion Medicine Symposium

On November 6, 2010, the blood transfusion laboratory presented their annual symposium. This year's topic was "Special Products for Special Patients". The keynote address was delivered by Dr. Wendell Rosse, Professor Emeritus, Duke University Medical Centre. Dr. Rosse is recognized throughout the world for his work in transfusion medicine and in particular paroxysmal nocturnal hemoglobinuria (PNH). There were 100 participants in attendance from throughout southwestern Ontario. The symposium was sponsored by LLSG, Orbcon and Canadian Blood Services.



Ontario Laboratory Accreditation

The hospital's laboratories were assessed by Ontario Laboratory Accreditation (OLA) June 20-24, 2011. OLA is a peer review assessment process which ensures that laboratories meet explicit quality management criteria, in order to provide formal recognition that the laboratory is competent to carry out examinations. Accreditation assessment visits determine if laboratories conform to the OLA requirements, which are based on ISO standards, Canadian and provincial statutes, regulations and standards, and Health Canada Guidelines. Thirteen assessors were on site to evaluate each of 25 laboratory sections. In addition assessors observed blood transfusion practices and processes for point of care (bedside) testing such as glucose, urinalysis and fecal occult blood. The laboratories met 97% of the requirements as stated and four year accreditation certificates were issued.





5.B – Report from Pathology Laboratories Manager, Debbie Gaskin

The Pathology Laboratories at London Health Sciences Centre include the following facilities under the designated coordinators:



Coordinator – Laurie Floyd:

- Pathology Clerical Support Group

Coordinator – Donna Murphy:

- Anatomical Pathology
- Ancillary Pathology
(which includes Electron Microscopy)
- Immunopathology and Neuropathology
- Cytology (including the Reese Laboratory)

Coordinator – Mike Graves:

- Autopsy Services
- Grossing Room
- Specimen Receiving Area
- UH Pathology MLA Team

Coordinator – Russ Wheeler (until Sept 2011):

- Biochemical Genetics
- Cytogenetics
- Molecular Diagnostics
- Molecular Pathology
- Transplant Immunology

Our focus is on 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 the only accredited Pathologist's Assistants program in Canada, in which the teaching opportunities have been fully embraced by our technical staff.

At the University site, we amalgamated the medical laboratory assistants in the pathology portfolio to form the UH Pathology MLA Team. This has allowed us flexibility to better address our growing requests. 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.

Section 5c: Pathology Laboratories

July 2010 - June 2011 statistics

Staff Numbers (127)						
Clerical Support	Coordinators /Support Coordinators	Lab Assistants	Pathologist's Assistants	Research Associates & Assistants	Technologists (including senior techs)	Scientists
19 / 1	3 / 1	10 / 6	8	3 / 1	71 / 3	1

Approximate Statistical Averages									
<i>Histopathology / Cytology</i>									
Autopsy #	Coroners Cases	Surgical Cases	Intra-Operative Consultation Reports	Slide Counts	Block Counts	Rapid Processing	Cytology		
							Gyn	Non-Gyn	FNA
145	443	45097	1455	415,646 All Slides S/A/ IHC	190,115	307	19,004	8464 (includes # FNA)	1938
<i>Molecular/Genetics</i>									
Cytogenetics					Molecular Biology	Molecular Pathology	Biochemical		
Initial Handling & Report	Sign Off				Genetics	Specimens	Tests		
	Abnormal Case	Complex Case	Normal Case	Oncology Case					
3903 (specimens)	478	304	1810	1917	4649	306	6113		
<i>Transplant</i>									
Tests									
8166									



Section 6 – Division Head & Medical Leader Reports

6.A1 – Anatomical Pathology – Surgical Pathology

Report from Medical Leader of Surgical Pathology, Dr. C.M. McLachlin

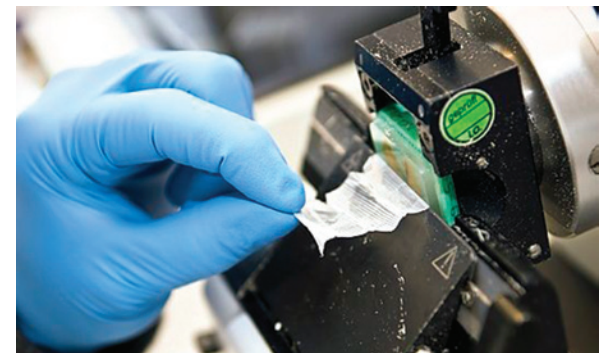
The Department of Pathology is staffed by 27 surgical pathologists, including 3 neuropathologists. As well there are 2 oral pathologists that are affiliated through the University Department. The division of Surgical Pathology is lead by Dr. Meg McLachlin who also acts as the Deputy Chief of Pathology. A new position negotiated as part of the package for our new chair and partially funded through the MOHLTC/OMA agreement for new laboratory medicine positions is being advertised in the fall of 2011. This new position is a combined clinical research position and will have significant protected time for the individual hired to set up an independent research program.

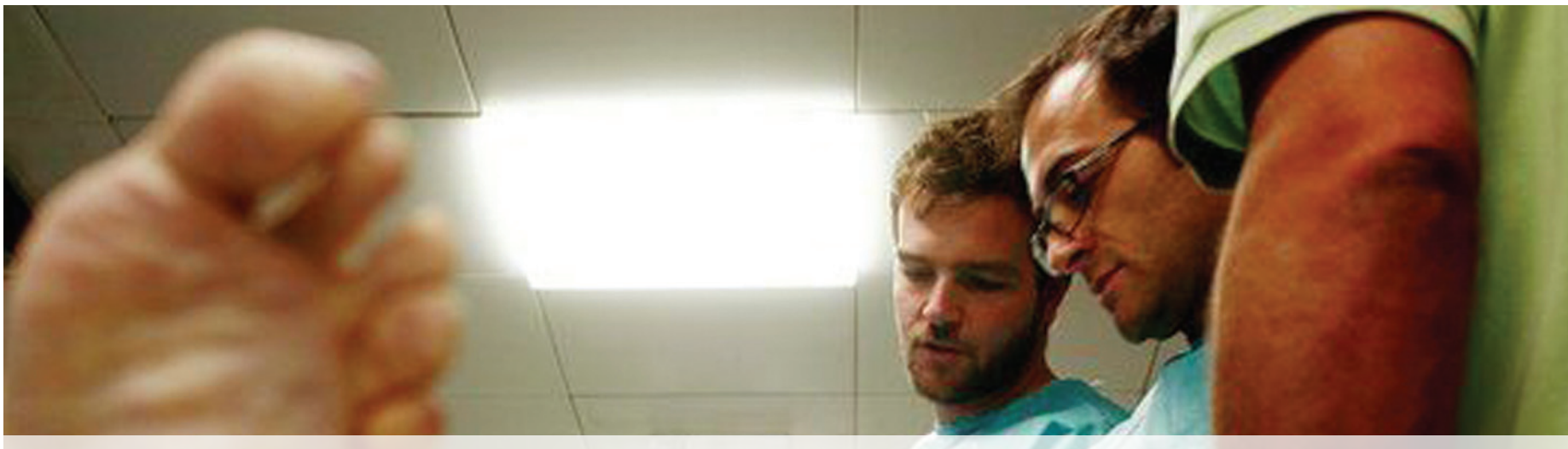
The Department of Pathology endeavors to provide a balanced approach to service, education, quality, and research. We have continued to refine our subspecialty approach for the surgical pathology services with dedicated teams of pathologists providing focused expertise. There have been recent increases in volumes for some teams (eg GI biopsies have increased with added funding for endoscopy services) and all teams are dealing with increased complexity in their reporting requirements. This is especially true with synoptic reporting mandated by CancerCare Ontario. We are currently in the process of introducing over 60 new synoptic report formats. The volume of requests for consultation services has continued to increase, likely related to increased

scrutiny of pathology services across the province. Providing a timely consultation service continues to be a pressure as this work must be balanced with internal diagnostic needs.

The Department has focused considerable effort in reviewing and enhancing our quality initiatives. Under the leadership of Dr. Helen Ettler, the PIQM committee focusing on quality in interpretive pathology has been reviewing and standardizing our procedures in order to optimize diagnostic quality. We are currently developing our Professional Quality Management program in line with the recently released Standards 2Quality initiative.

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.





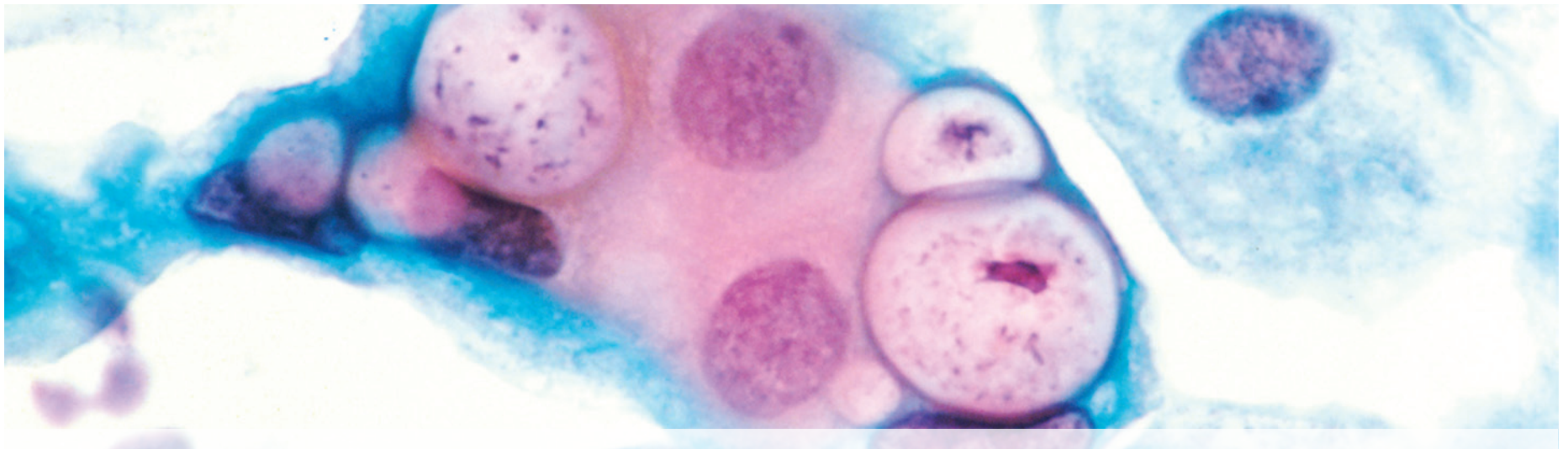
6.A2 – Anatomical Pathology – Forensic Pathology

Report from the Medical Leader of LHSC Autopsy Service & Director of Southwestern Ontario Regional Forensic Pathology Unit - Dr. M. Shkrum

The autopsy facility at LHSC-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 (“hospital-consent”) of in-patients in any of the London hospitals are done in the UH facility. All cases investigated by local coroners are sent to the UH service. In addition, complex 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. The pathologists are supported by excellent staff.

In 2010, there were 522 autopsies done at UH. Of these, 379 were coroners’ cases and 143 were hospital-consent cases. Referrals from outside London accounted for 126 (33%) of the 379 coroners’ postmortems. Based on 2009 statistics, 13 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 the MSc Pathologists’ Assistant program offered by the Department of Pathology.



6.A3 – Anatomical Pathology – Cytology

Report from the Medical Leader of Cytology, Dr. M. Joseph

The Cytology division within the Department of Pathology is run by a team consisting of the Medical Leader (M. Joseph), Coordinator (Donna Murphy), 9 cytotechnologists, 1.5 lab assistants and 12 pathologists of which 4 are cytopathologists. We provide a wide range of diagnostic services to our physicians and deliver expert cytology consultation service to our regional pathologists.

Last year we processed 27,468 samples in the cytology lab (19,004 gyn-cytology, 8464 non-gyn cytology, of which 1938 were fine needle aspiration biopsies (FNABs). The recently introduced, state of the art, Hologic Thin Prep T5000 processor has certainly improved the efficiency of cytopreparation in our lab. Our cytotechnologists continue to provide the FNAB adequacy service to our clinicians (840 cases last year) at all three hospital sites and our client physicians' survey highlights the remarkable benefit of this service for patient care.

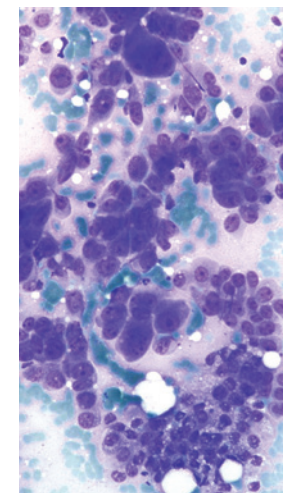
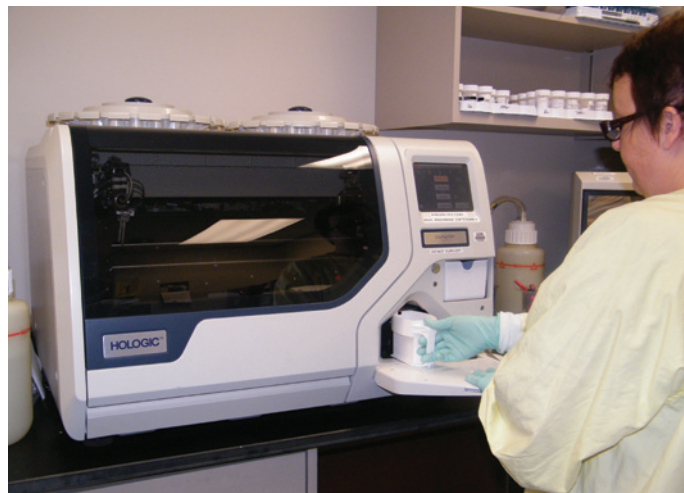
Our cytology team worked with our LHSC physicians and established protocols for two recently introduced technically challenging procedures EUS-FNA and EBUS-FNA and these have largely assisted gastroenterology and respirology/thoracic patients. Our lab successfully completed the OLA accreditation visit thanks to Donna Murphy and her team for their hard work and commitment.

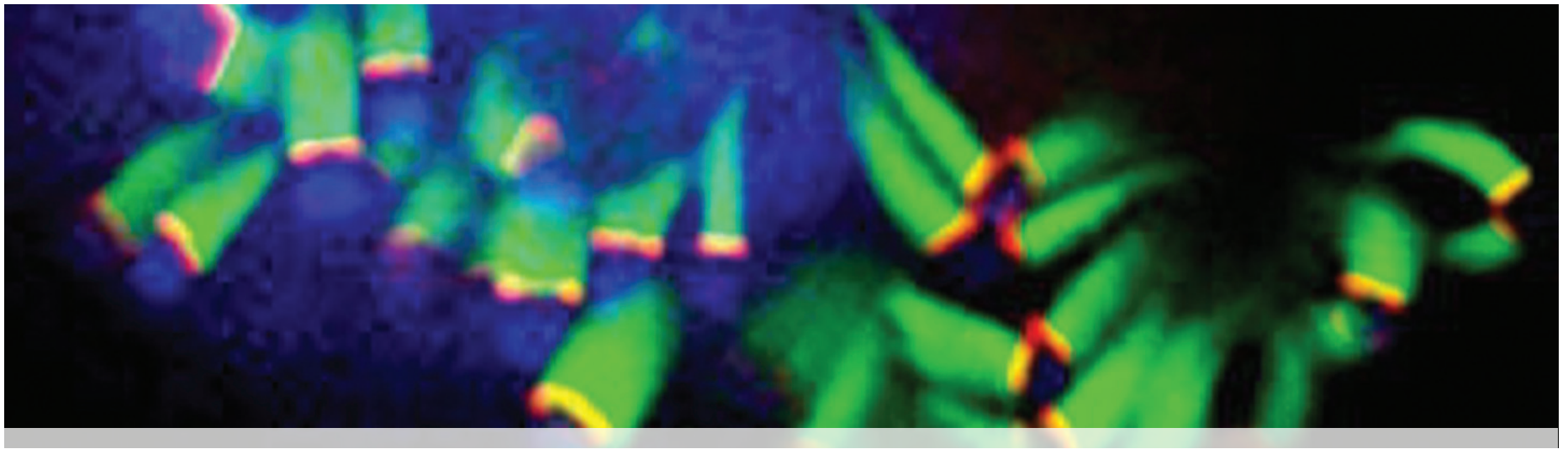
Education is a major thrust of our cytology division. We strive to create a stimulating educational environment by team teaching and peer learning which we believe also enhances team relationships. Our recently introduced multi head microscope rounds for cytotechnologists and our traditional monthly cytology rounds have been redesigned to improve communication and interaction. Our team members are actively involved in the ongoing teaching of Pathology residents and we are currently developing a curriculum for an exciting Cytology Fellowship Program. Equally important to note is that several of our cytotechnologists are Clinical Educators with the Michener Institute of Health Sciences.

We run a robust Quality Management Program in our cytology division under the leadership of Dr. M. Weir. Our team is proud of our ongoing QA and QC programs with many projects presented at national meetings. We are pleased to state that physicians from our cytology team participate on the executive board of the Canadian Society of Cytology, Canadian Coalition for the Prevention of Cervical Cancer as well as in the Scientific Committee of the Quality Management Program and Licensing Service of Ontario Branch of the Ontario Medical Association.

Cytology is an evolving science. The future of Cytology lies in the introduction of newer technologies and molecular testing. There are opportunities to build on current areas of strength and expertise. The collaboration and interaction between cytopathologists and surgical pathologists must increase in the research field. An inventory of cytology research needs to be created and maintained, in order to identify where expertise lays, where collaborations can be encouraged, and where gaps exist.

Challenge lies partly in shortage of resources. Increasing demands for FNAB adequacy service by physicians at Victoria hospital is challenging. Currently we are working with clinicians at Victoria hospital who utilize this service to streamline the process using creative strategies. We believe the Laboratory's success is linked to its interdisciplinary team approach. In order to succeed, cooperation and collaboration are required among all key stakeholders.





6.A4 – Anatomical Pathology – Molecular Pathology

Report from the Medical Leader of Molecular Pathology Group, 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. Each of our clinical tests requires licensure by the Ministry of Health.

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. Section Head: Dr. T. Rupar.

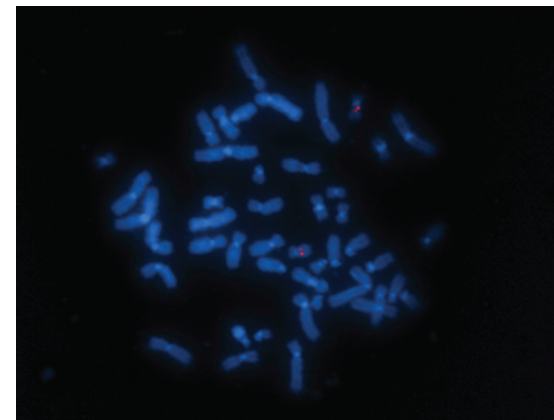
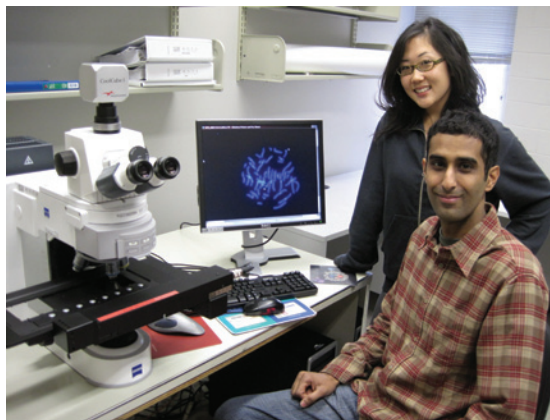
The cytogenetics laboratory provides routine chromosome analysis/karyotyping and molecular cytogenetic testing (F.I.S.H.) for many inherited diseases (prenatal, perinatal and postnatal) and acquired cancers. It serves more than 1.6 million people in Southwestern Ontario and is one of 11 laboratories in the province. Section Head: Dr. J. Xu.

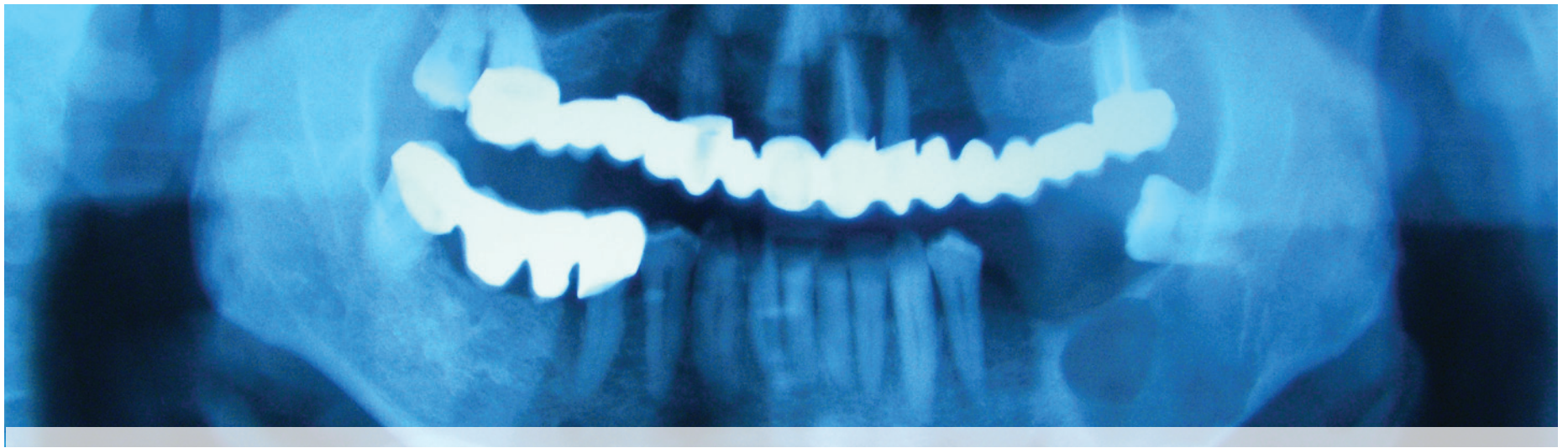
The molecular genetics/diagnostics (one of 8 in the province) and molecular pathology laboratories perform a wide variety of gene testing methodologies for inherited disorders, mitochondrial disorders, predictive cancer testing, somatic diseases (such as leukemia and lymphoma) and therapeutic monitoring (for leukemia). They serve as reference laboratories for some tests. Section Heads: Dr. P. Ainsworth (Genetics/Diagnostics), Dr. C. Howlett (Pathology). Test volumes continue to increase each year (10-20% on average) and test complexities continue to increase significantly each year. The majority of molecular tests that we perform are moving towards complete gene sequencing platforms. Increases in test volume have been greatest in cancer testing (with more than 50% of the workload associated with the Cancer Genetics Program) but provincial newborn screening and new breast cancer screening regimens continue to increase test volumes in Biochemical Genetics and Molecular Genetics.

The numbers of diseases that can be/should be tested at the DNA and RNA level are increasing and the testing platforms are changing rapidly. Our challenge is to find resources to keep pace with the medical and scientific advancements and to expand our capabilities to better serve our patient population.

During the past year, the cytogenetics, molecular genetics/diagnostics and molecular pathology sections of our group have moved to a new contiguous laboratory facility at Victoria Hospital and integration of the molecular units is now in progress. We have also secured resources to introduce microarray testing (which screens thousands of chromosomal loci) for high resolution detection of chromosomal rearrangements in inherited and acquired diseases. We hope to recruit a full-time doctoral level specialist in molecular genetics and cytogenetics to keep pace with the increased test volume and test complexity, and improve professional coverage for these subspecialties.

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





6.B – Oral Pathology

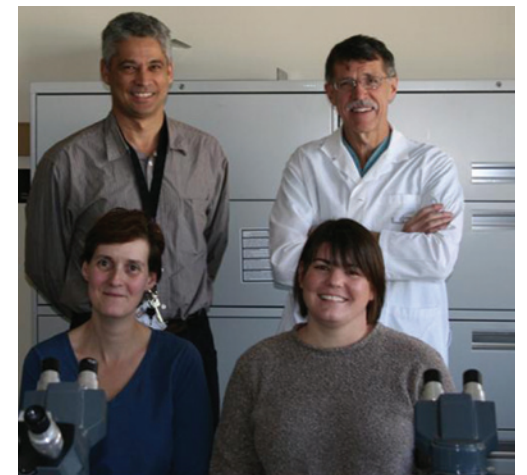
Report of the Division Head of Oral Pathology, Dr. Tom Daley

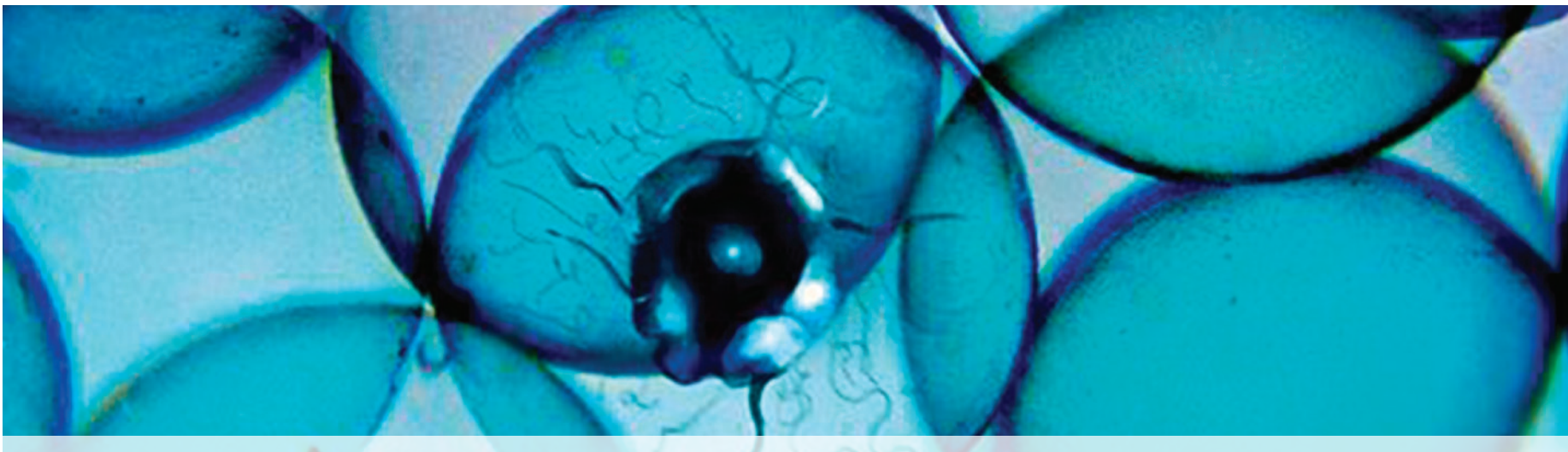


For the year 2010-2011, the members of the Division of Oral Pathology continued to respond to increasing demands in all areas of responsibility. The demand for diagnostics and patient care continues to grow. Tissues from dentists and dental specialists are received from across Ontario, and consults are received from both medical and oral pathology colleagues across Ontario and Canada.

Teaching demands also continue to be high. Fine tuning of the three new courses developed for the new dental curriculum is in process as we learn from mistakes in previous years. The new third year course will be given for the first time in 2011-2012. There is considerably more administrative work involved with these courses.

Research continues to progress. Topics include the influence of human kallikreins in salivary gland neogenesis and in cystogenesis and neogenesis of odontogenic lesions. Research on periostin's involvement in odontogenic and fibro-osseous lesions is also being done. We now have four graduate students and a fifth coming on board. Two of the senior students are in the write-up phase, while the other two are doing active research at this point.





6.C – Medical Microbiology



Report of the Medical Leader of Medical Microbiology, Dr. Rob Lannigan

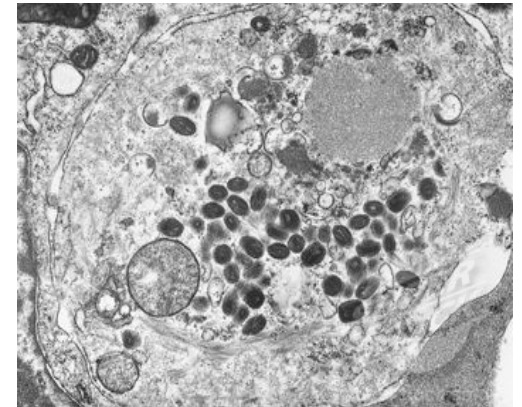
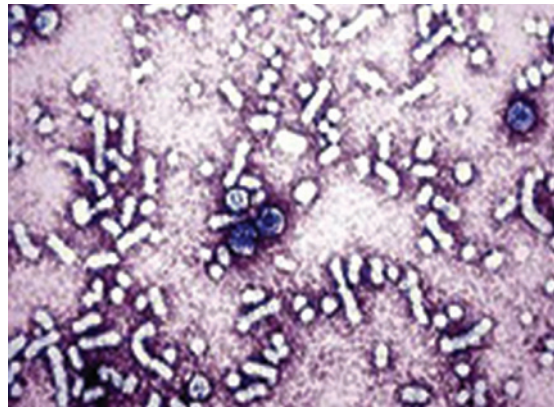
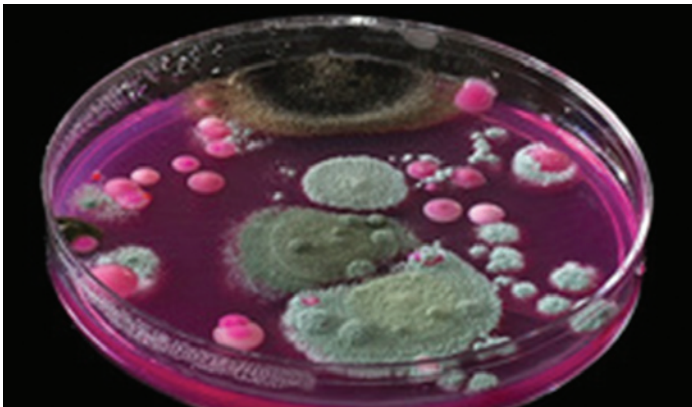
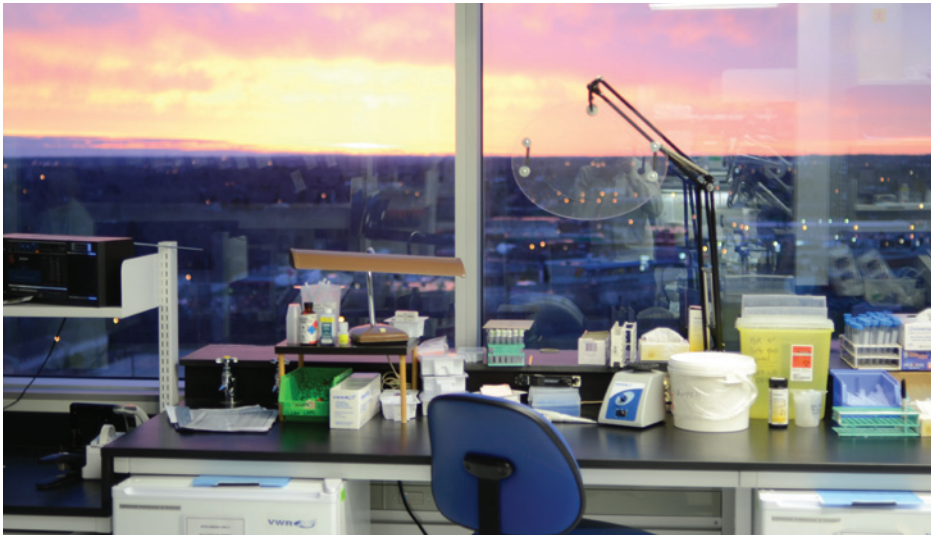
In November 2010 the final move of laboratories to the 10th Floor B wing at Victoria Hospital took place. This saw the bringing together of the Virology lab, which was situated at SJHC, and the other Microbiology labs into one location. There is also a shared lab facility with molecular pathology and molecular diagnostics where we are able to consolidate our PCR diagnostic menu. This move has been much anticipated and much appreciated as our lab facilities are now spacious, modern, well equipped and something to be proud of.

A major hospital initiative this year has been to address the issues of patient safety and patient access. Infection control has been an area of growth in this regard and the lab support of the infection control program has benefitted by acquiring new technologies. A new diagnostic method for the diagnosis of *C.difficile* is being introduced. We will also be moving to identifying organisms more rapidly using the MALDI-TOFF technology. Other equipment will help us streamline our PCR work.

Dr Z. Hussain will be retiring at the end of this year. He will be sorely missed as he has been the mainstay of clinical support for the routine diagnostic microbiology lab as well as the residency program. We wish him well in his retirement. Recruitment is underway for a replacement and there may be opportunities for additional positions in medical microbiology to provide sufficient personnel for the workload.

Teaching this past year has continued as before. The new microbiology course for Pathology assistants started and will be continued next year. The microbiology resident is now in his final year and will be sitting his Royal College exams in 2012. R. Lannigan has taken over the role of program director until this resident is finished his training. There are no plans to take new residents unless there is sufficient recruitment of faculty and there is a faculty member interested in revamping the program in medical microbiology.

Research continues to be a challenge. This year R. Lannigan was part of a team that was successful in obtaining a grant from IDRC to investigate Coastal Cities at Risk due to climate change.





6.D – Neuropathology

Report of Division Head of Neuropathology, Dr. L.C. Ang

The Division of Neuropathology in the Department of Pathology at the London Health Sciences Centre is located at University Hospital in London, Ontario, a city of 350,000, and is the sole teaching institute in Southwestern Ontario serving a population of more than 2 million.

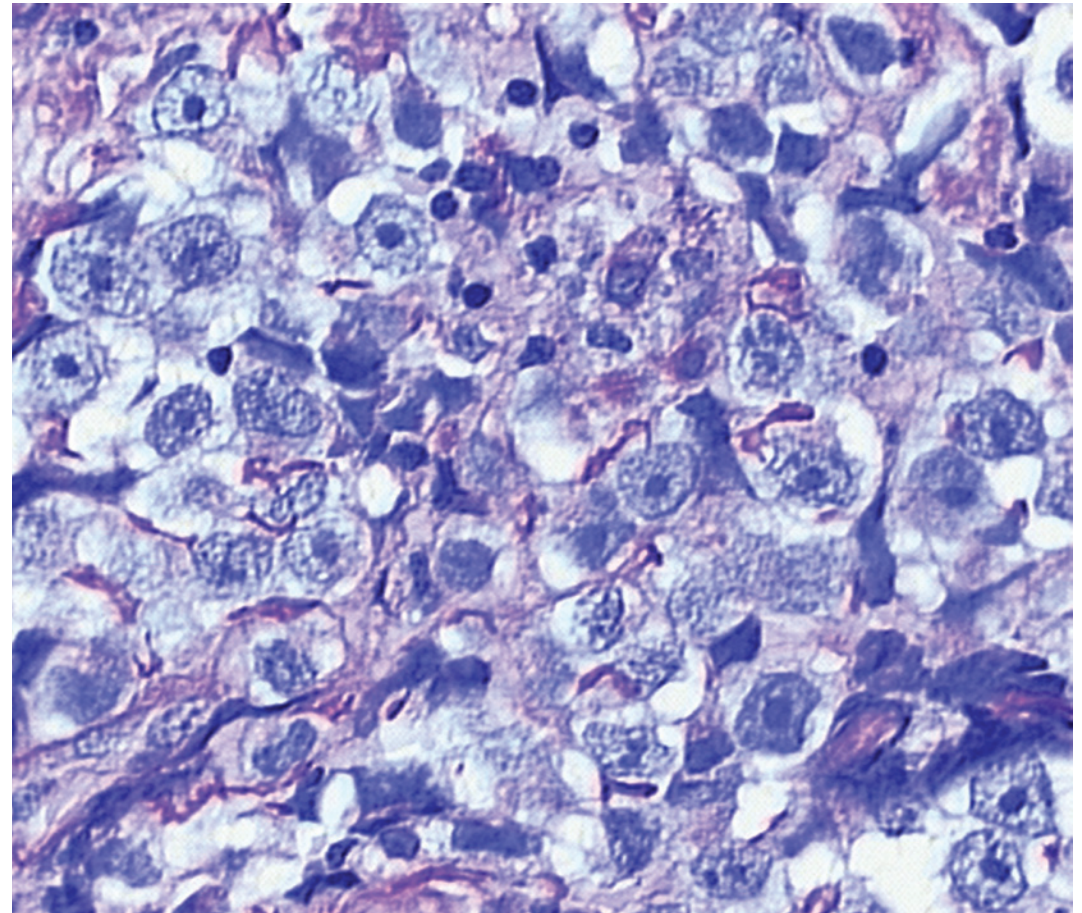
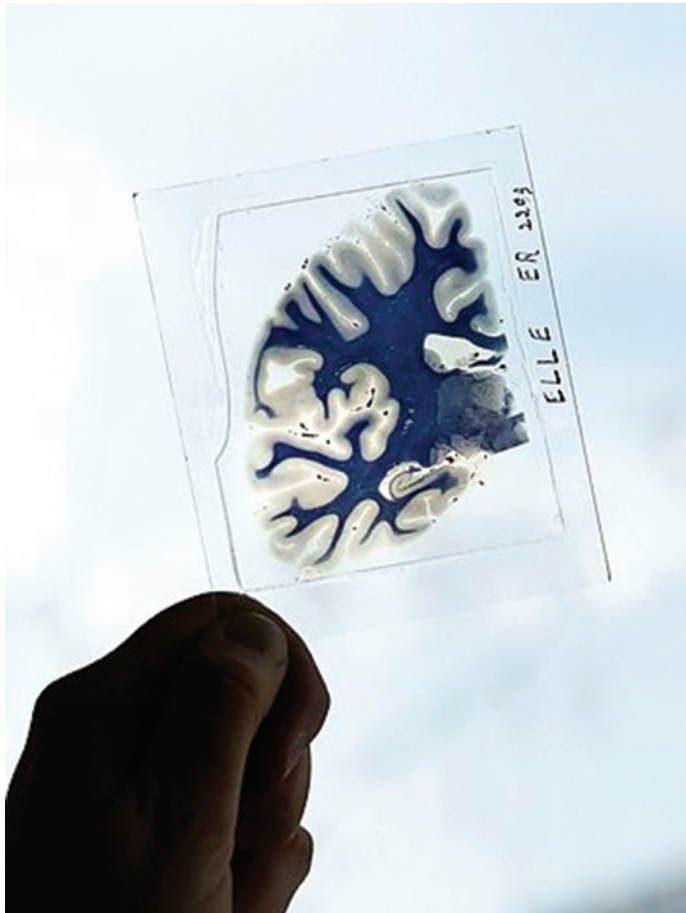
Neurosurgical Cases: we receive in-house cases from 11 neurosurgeons and referred cases from Windsor, Sudbury, Sarnia, Strathroy, Stratford, Woodstock, Hamilton, Newfoundland, Saudi Arabia and Singapore. Intraoperative consultations for adult CNS tumours were regularly performed at University Hospital while frozen sections for pediatric CNS tumours from Victoria Hospital were performed through telepathology with the neuropathologists stationed in University Hospital.

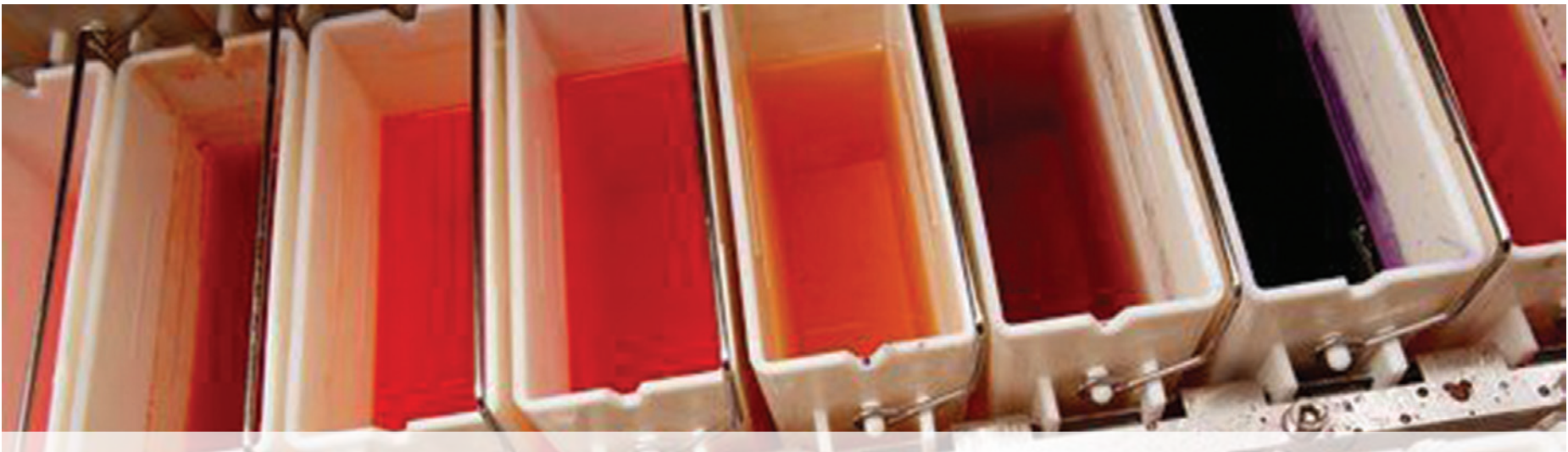
Neuromuscular Cases: these cases come mainly from our neurology colleagues in London but also many from Windsor, Thunder Bay, Sudbury and Waterloo-Kitchener.

Autopsy brains: cases examined in the year included both academic cases and coroner's cases. Attendance by neuropathologists during autopsies to examine and sample brains in unfixed state has increased because of the provincial policy on organ retention for coroners' cases.

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 southwestern Ontario. Dr. Hammond performed needle biopsies for muscle diseases and received referrals from the surrounding regions in South Western Ontario. The 3 career neuropathology residents and many rotating residents also participated in the service.

The neuropathology laboratory is run efficiently with very well-trained and experienced technologists who dealt with neurosurgical tissues, autopsy brain samples and muscle histochemistry. This diagnostic service is well supported by the electron microscopy, cytogenetic, molecular pathology and immunopathology divisions.





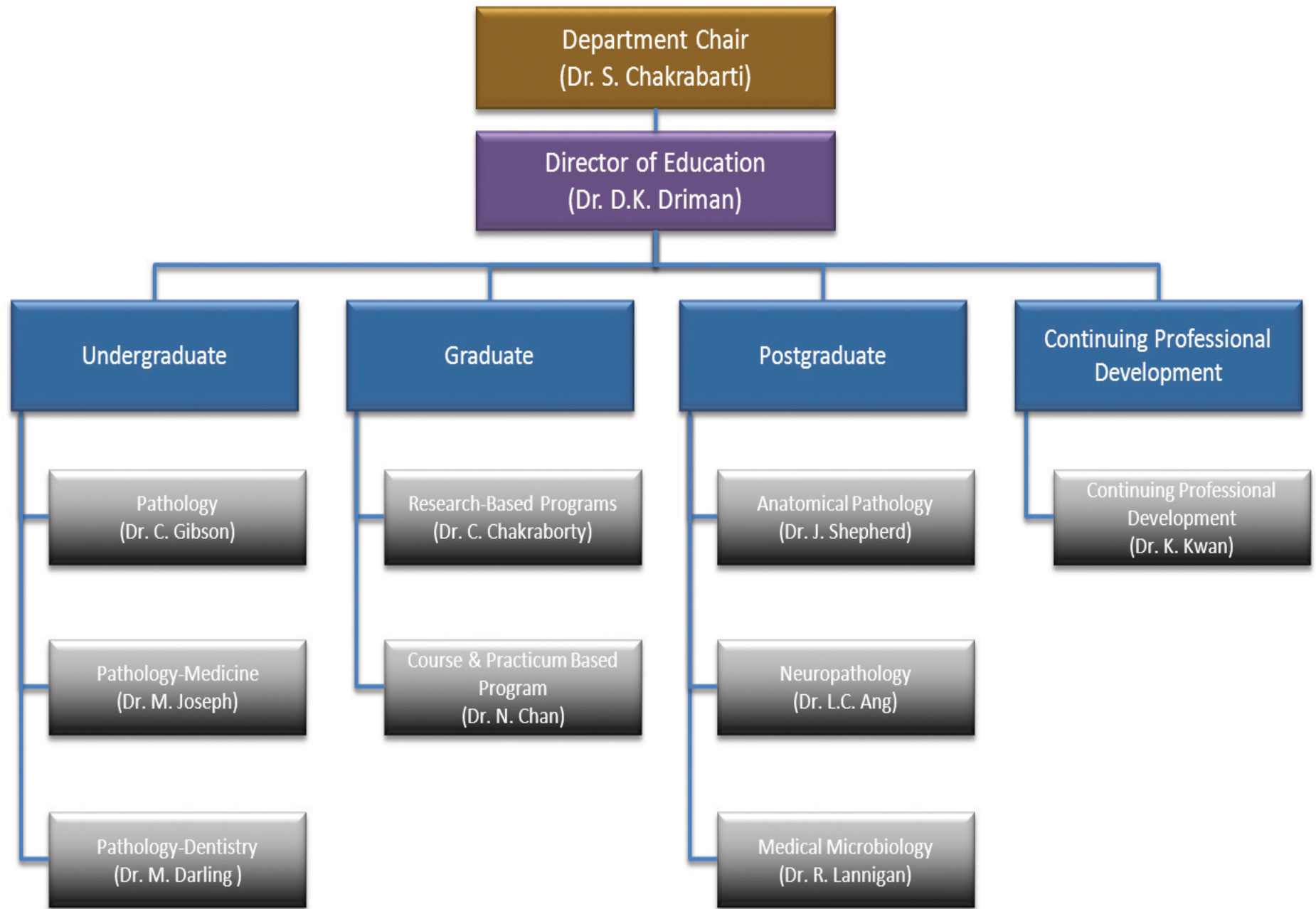
Section 7 – Department of Pathology Education Report

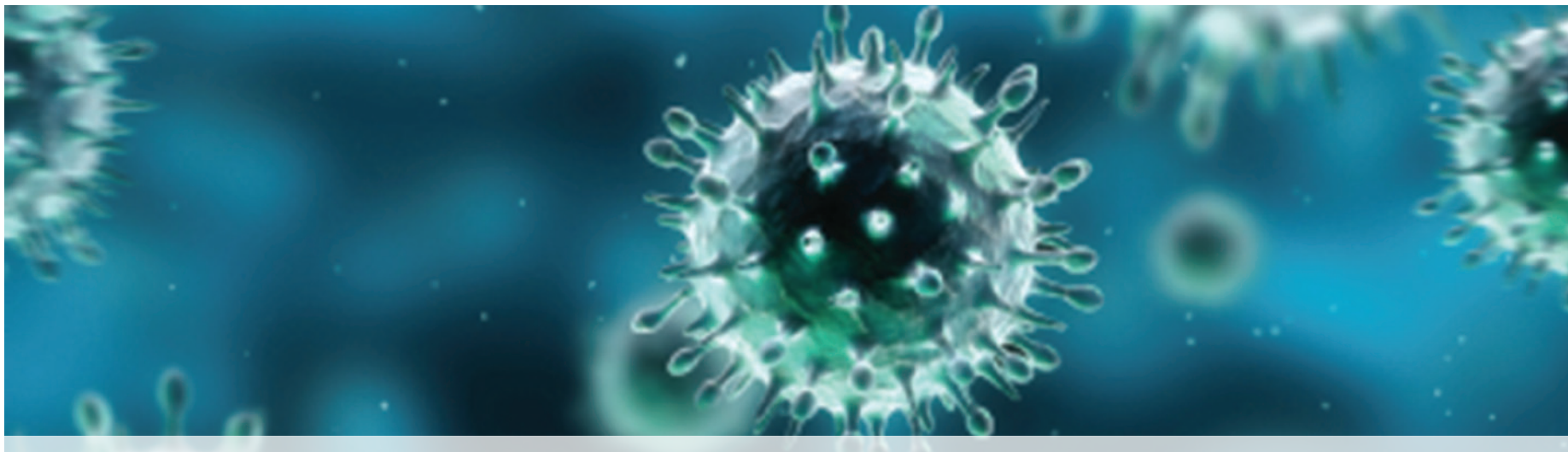


Director of Education, Dr. David Driman

In 2011, the organization of the educational activities of the Department of Pathology was restructured, and a Director of Education (Dr. D. Driman) was appointed to oversee the educational activities. Most of the changes centred on undergraduate teaching which was restructured to separate the professional programs from the non-professional programs. Now, 3 committees administer undergraduate teaching: Undergraduate – Pathology, chaired by Dr. C. Gibson (includes all BMSc/BScN program teaching), Undergraduate – Medicine, chaired by Dr. M. Joseph (medical student teaching) and Undergraduate – Dentistry, chaired by Dr. M. Darling (dental student teaching). In addition, a Department of Pathology Education Committee was formed, chaired by the Director of Education, with membership from all the course and program chairs (undergraduate, graduate, postgraduate and continuing professional development). The mandate of this committee includes the following: promotion of excellence in undergraduate pathology education, promotion of research collaboration through the educational programs in the department, and to develop strategies to further promote current educational programs, regulate further program expansion and to improve the education profile of our faculty, nationally and internationally.

Educational Program Organization





7.A – Postgraduate Programs

The Department of Pathology offers intensive, integrated training programs in Anatomical Pathology, Medical Microbiology and Neuropathology. These programs fulfill the requirements of the Royal College and 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. Medical Microbiology (Program Director, Robert Lannigan)
- III. Neuropathology (Program Director, Lee Cyn Ang)

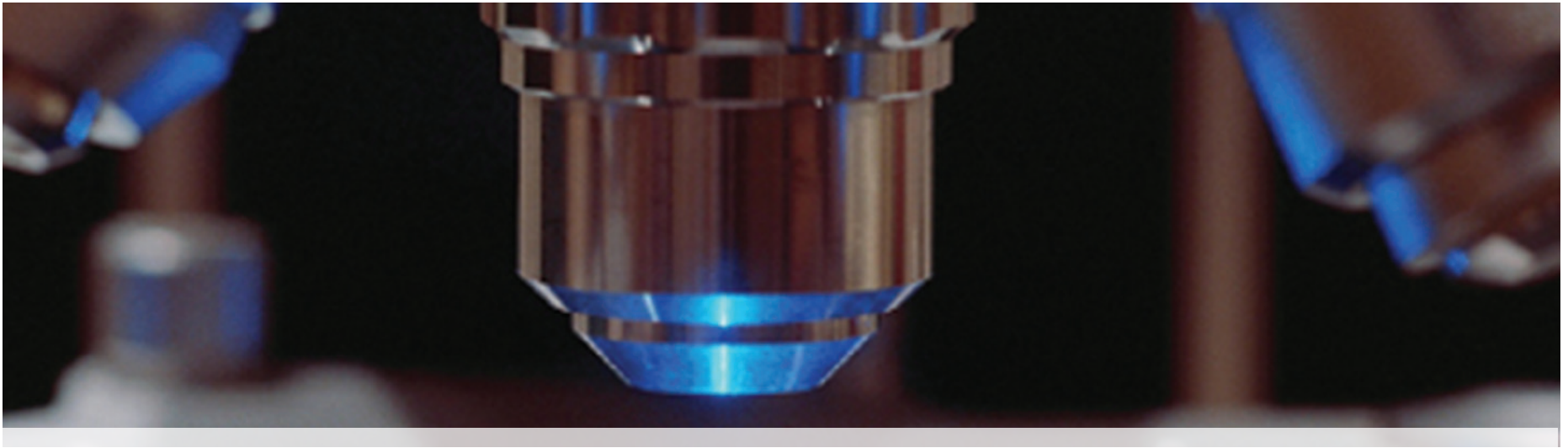
For information on the Residency Training Programs please visit: <http://www.uwo.ca/pathol/postgraduate/index.html>

Graduating Trainees – 2010 - 2011

Dr. Mathieu Castonguay – Anatomical Pathology

Dr. Susanne Chan – Anatomical Pathology

Dr. Areej Shibani – Anatomical Pathology



7.A1 – Anatomical & General Pathology Resident Training Program

Report of the Program Director, Dr. J. Shepherd

There were 12 residents in Anatomical Pathology (AP) in 2010-11, and none in General Pathology. The residents (PGY2-5) 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.

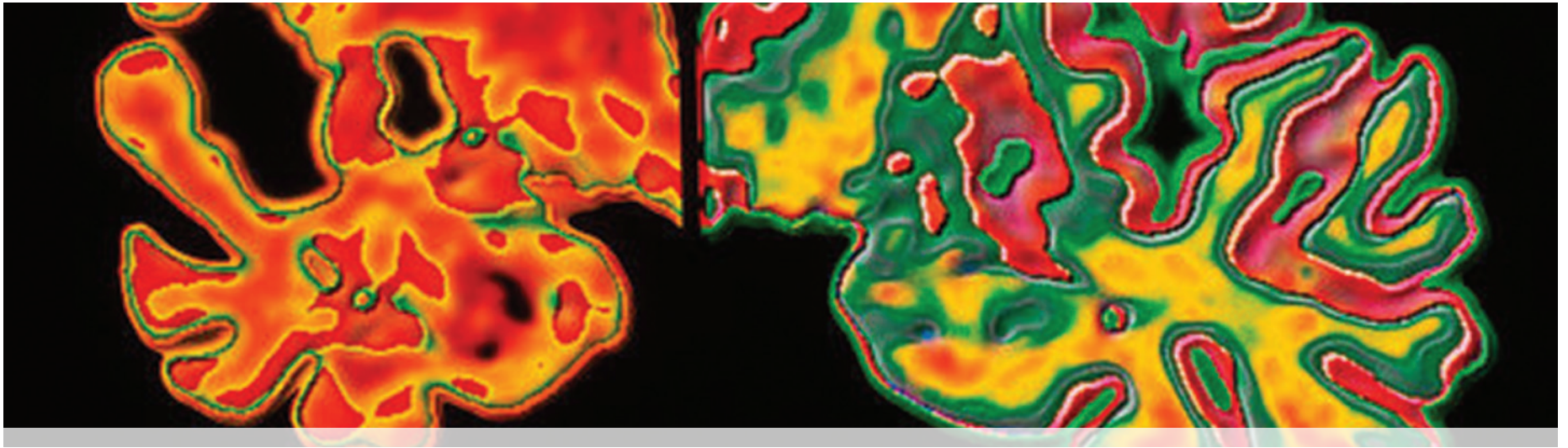
27 full-time faculty anatomical pathologists participated in teaching and mentoring our residents. All pathologists cover two or more subspecialty areas, as members of subspecialty teams. On any given day, most pathologists are on site and interact with one another in the handling of service and consult work. This results in a comprehensive and cohesive learning experience for the residents, with broad 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 observers, 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, at least 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 exemption of the PGY5s, presented their research at the Annual Research Day in April, along with the graduate students from the Pathology department.

In the CaRMS match, both of our PGY1 positions were matched, one in the first iteration and the other in the second iteration. The program had two PGY2 residents, two PGY3 residents, three PGY4 residents and three PGY5 residents. In Spring 2011, all three PGY5 residents passed the Royal College specialty examinations, and were accepted into subspecialty fellowship training, in the Mayo Clinic, the University of Toronto, and our own department.





7.A2 – Neuropathology Resident Training Program

Report of the Program Director, 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 the 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 Anatomical Pathology. Program administration has been provided by Ms. Susan Stewart at the University of Western Ontario. Almost all the clinical teaching is concentrated at the University Hospital.

During the period of this report, there were 3 career neuropathology residents in the program, one in PGY4, one PGY3 and one in PGY2. Two residents were from Saudi Arabia sponsored by the Saudi Arabian Government. These residents will return to Saudi Arabia after completing their residency. The other resident, a Canadian citizen, came through the CaRMS.

During the year, a number of Anatomical Pathology residents, Neurology residents and Neurosurgery residents completed their electives in our program. One elective pathology resident from the University of Manitoba spent a month of training with the program. One of our neuropathology residents spent 2 months in an elective for pediatric neuropathology at University of British Columbia.

In addition to teaching during brain cutting and microscopic sign-out sessions, there are weekly unknown slide sessions as well as Journal Club for Neuropathology residents. For Anatomic Pathology teaching, residents are required to attend the Wednesday academic half day and Wednesday noon rounds with the Anatomic Pathology residents where Anatomical Pathology cases are presented and Forensic Pathology Rounds teaching where general forensic pathology is being taught.

Pathology Grand Rounds and the Robert Zhong Research Seminars are held 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. A monthly Neuropathology Slide Teaching Seminar is held for all Neuropathology, Neurology and Neurosurgery residents.

Two neuropathology residents presented papers at the CANP Annual Meeting at October 2010 in Toronto.





7.A3 – Medical Microbiology Resident Training Program

Report of the Program Director, Dr. R. Lannigan.



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, 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.

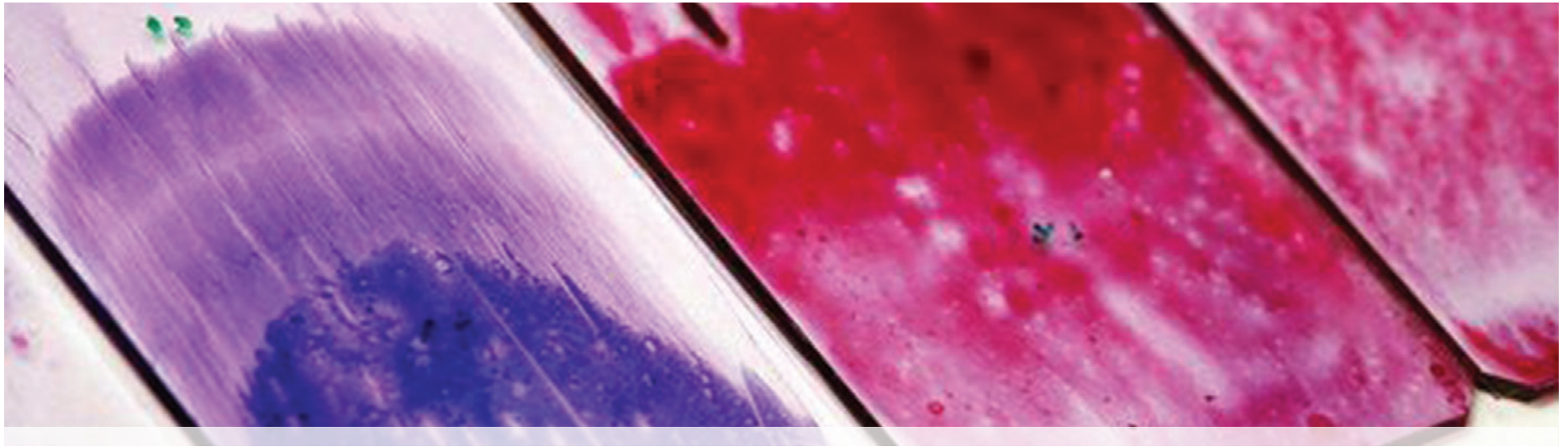
The program encourages research and most of our residents have had several publications in peer-reviewed national and international journals and made presentations at national and international meetings. Historically, graduates of our program have been successful at the Canadian certification examination 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.

2011-12 members of the Medical Microbiology Residency Training Committee

- Dr. Anne-Marie Bombassaro (Clinical Pharmacist, Infectious Diseases)
- Dr. Zafar Hussain (Section Head, Bacteriology)
- Dr. Michael John (Medical Director, Infection Prevention & Control)
- Dr. Robert Lannigan (Program Director, Medical Leader, Medical Microbiology)
- Dr. Sameer Elsayed (Infectious Disease Consultant, Adult)
- Dr. Marina Salvadori (Infectious Disease Consultant, Paediatrics)
- Dr. Marvin McGavin (Associate Professor, UWO Microbiology & Immunology)
- Dr. Ian James Stuart (Resident Representative)

Please note that the program is not currently accepting applicants. After the completion of the present resident's training (June 2012), the program will become inactive.



7.A4 – Trainees at July 1st 2011

Anatomic Pathology

Brian Schick PGY1

Qi Zhang PGY1

Essie Mwamwenda-Heinrich PGY2

Allison Osmond PGY2

Rebekah Jacques PGY3

Cady Pocrnich PGY 3

Mara Caragea PGY4

Iram Siddiqui PGY4

Emily Filter PGY4 (eff. July 31st)

Adina Irimies PGY5

Hector Li Chang PGY5

Sami Siddiqui PGY5

Neuropathology

Murad Alturkustani PGY4

Das Sumit PGY3

Fahd Al Sufiani PGY3

Medical Microbiology

James Ian Stuart PGY5

Awards

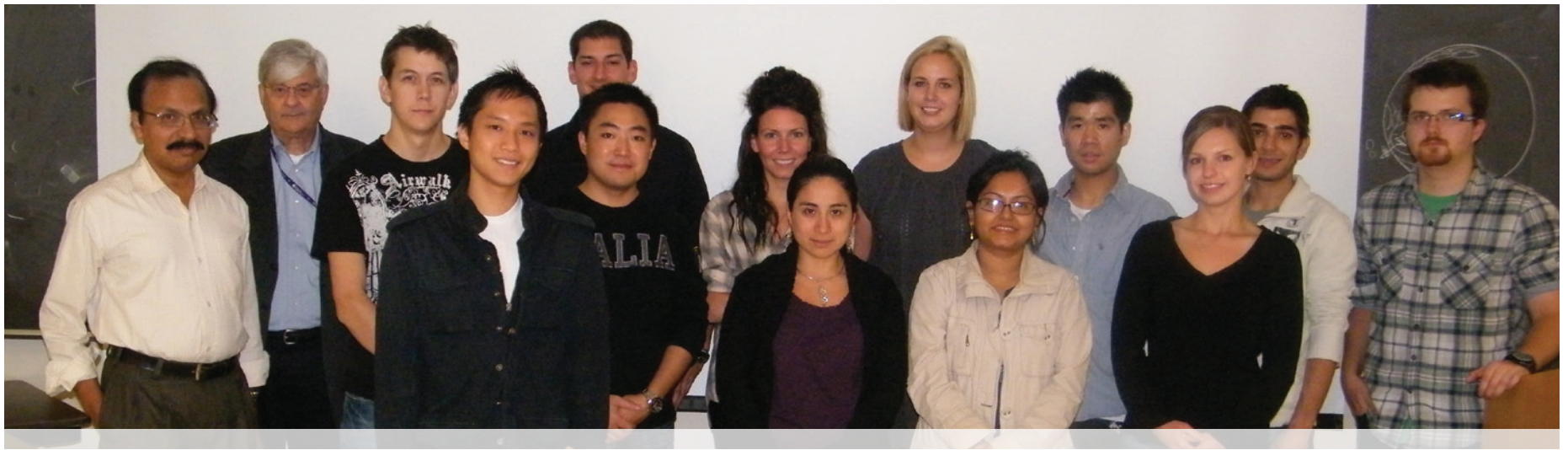
- Iram Siddiqui was the winner of the 2010 Donald Rix Award for her poster presentation at the 61st Annual Scientific Meeting in Montreal, Quebec – July 10th, 2010.
- Susanne Chan, research paper entitled “An In-depth Study of Extraprostatic Extension and Margin Status in Radical Prostatectomies” was selected as one of the winners of the 2010 PSI Foundations Resident Research Award.
- Murad Alturkustani was awarded the Canadian Association of Neuropathologists’s top scientific honour, the Morris J. Finlayson award.

Publications & Presentation

- POSTERS presented at the CAP meeting in Montreal, July 2010:
 - Adina Irimies, M. G. Joseph and M. Gabriel. Basal Cell Carcinoma with Pilomatrical Differentiation: A Case Report and Review of the Literature.
 - Iram Siddiqui, David K. Driman, Aaron Haig, Brian M. Taylor, Manal Y. Gabriel. Adenocarcinoma Arising in Cystic Rectal Duplication, Preceded by Retrorectal Dermoid Cyst: A Case Report.
- Canadian Association of Neuropathologists meeting, Vancouver, October 2011
 - Murad Alturkustani, Fahd AlSufiani and Sumit Das delivered platform presentations

Alumni Update

- Dr. Chad Luedtke went on to do a one year Breast Pathology fellowship in New York City at Memorial Sloan-Kettering Cancer Center, and is now on staff in Calgary.
- Dr. Harkiran Kaur has completed a one year Gynecological and Breast Pathology fellowship in Toronto (University of Toronto).



7.B – Graduate Education Programs

The Department of Pathology Graduate Program has experienced unprecedented growth over the last several years because of implementation of some creative ideas by the previous graduate chair Dr. Subrata Chakrabarti. Examples of some of these are introduction of a part-time graduate program (both at M.Sc. and PhD levels), recruitment of several clinician scientists and basic scientists from some other clinical departments to our Pathology Graduate Program, introduction of a collaborative graduate program between the environmental pathology program and the ecosystem health program, and by launching of a course based Pathologists' Assistant (PA) graduate program. As of this fall, the PA program has become a separate stand-alone program. The Department of Pathology is committed to graduate education, though further growth in our graduate program has been limited by the number of graduate faculty members in our department. This has largely been due to a lack of resources, specifically space, making it impossible for the department to recruit new scientists in the Department of Pathology at UWO.



7.B1 – Research Based Graduate Program

Report of the Graduate Chair, Dr. Chandan Chakraborty

Research training is provided both at the M.Sc. and at the Ph.D. levels. This is an integrated research program and investigation occurs at the molecular, cellular, tissue, whole organism, and clinical levels. Students carry out supervised

research in various thematic areas, including cancer, diabetes, transplantation, stem cell biology, neuroscience, cardiovascular science, developmental defects, molecular genetics and toxicology. The goal of our graduate program is to create tomorrow's researchers; scientists who will make significant original contributions to the global understanding of disease diagnosis and mechanisms. Graduates from our program are qualified for a diverse set of careers including academia, government, and the pharmaceutical industry and have been successful in each of these sectors. To further address the specific need for tomorrow's scientists and to train clinician-researchers, an under-resourced profession in Canada, we have initiated a successful part-time research based graduate program.

Graduate Student Enrollment

In the past several years we have experienced an unparalleled growth in our pathology graduate education program. From a total of 14 M.Sc. and 6 Ph.D. students in September of 2005, enrollment has increased to 36 M.Sc. and 11 Ph.D. students in September of 2010 See [Table 1]. This is due to several reasons such as an increased intake of graduate students by our existing faculty, and the initiation of: a) a part time graduate program; b) the ecosystem health graduate program; c) an oral and maxillofacial surgery program; and d) the PA training program. Our achievements fulfill the mandate of UWO to increase graduate student enrollment. Our faculty members are very successful in recruiting high quality research students into their research laboratories.

Table 1 – Enrollment in Pathology Graduate Programs

Academic Year	MSc FT	MSc PA FT	MSc PT **	MSc Total	PhD FT	PhD PT	PhD Total	Total FT	Total PT	Total
2005-2006	11	0	3	14	5	1	6	16	4	20
2006-2007	9	0	4	13	3	2	5	12	6	18
2007-2008	10	4	4	18	5	1	6	19	5	24
2008-2009	9	8	3	20	4	2	6	21	5	26
2009-2010	15	8	6	29	5	2	7	28	8	36
2010-2011	18	8	10	36	9	2	11	35	12	47
2011-2012	8	8	11	27	11	2	13	27	13	40

Note: Students who are on a Leave of Absence are not included in this data

** MSc PT – 3 Oral Maxiofacial Students are included even though they are not counted until the 4 th year of their degree.

We believe that our research-based graduate program can expand further. However, continued growth of this program has been hindered by the lack of sufficient graduate supervisors. This is in sharp contrast to several other programs in Schulich where lack of expansion is due to lack of qualified student applicants. Over the last 10 years, the overall number of Basic Science faculty (including Oral Pathologists) appointed in Pathology has slightly increased from 5 scientists in 1999 to 7 as of 2009. Although we successfully competed for one UPIF position in the last five years, this is significantly lower than the

incremental faculty recruitment that has occurred in several other departments over the same time frame. As the new Chair and Chief of Pathology and Laboratory Medicine, Dr. Subrata Chakrabarti has been able to negotiate 2 faculty positions (one basic scientist and one clinician scientist) and laboratory space for them. In addition, the Division of Medical Microbiology, Department of Pathology, is in the process of hiring a Medical Microbiologist with strong research background. This person will be accepting graduate student(s) through the Department of Pathology. These recruitments will help to further grow our research-based graduate program.

Faculty supervisors and research areas

The Pathology Department currently has 37 Pathology faculty members approved for graduate student supervision, though some of whom are heavily involved in the PA training program. Several of these individuals are also members of interdisciplinary graduate programs. Table 2 below lists our graduate faculty members.

Table 2 – Graduate Faculty

Name	Rank	Home Department
Adams, Paul C	Professor/MD	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
Garcia, Bertha	Professor/MD	Pathology
Gibson, Candace	Associate Professor	Pathology
Hammond, Robert R	Professor/MD	Pathology
Herbert, Carol P	Professor	Family Medicine
Howlett, Chris	Assistant Professor	Pathology
Hutnik, Cindy	Associate Professor/MD	Ophthalmology
Jevnikar, Anthony M	Professor/MD	Medicine

Joy, Tisha	Assistant Professor/MD	Medicine
Karlik, Stephen	Professor	Pathology
Khan, Zia	Assistant Professor	Pathology
Knoll, Joan	Professor	Pathology
Koropatnick, James	Professor	Oncology
Megyesi, Joseph	Associate Professor	Pathology
Min, Wei-Ping	Associate Professor	Surgery
Moussa, Madeleine	Professor/MD	Pathology
Nichols, Anthony	Assistant Professor	otolaryngology
Peng, Tianqing	Assistant Professor	Medicine
Rieder, Michael	Professor/MD	Pediatrics
Shkrum, Michael	Professor/MD	Pathology
Strong, Michael	Professor/MD	Clinical Neurological Science
Trick, Charles	Professor	Biology
Tuck, Alan	Associate Professor	Pathology
Wang, Rennian	Associate Professor	Physiology & Pharmacology
Wang, Hao	Assistant Professor/MD	Surgery
White, David	Professor	Surgery
Zhang, Zhu-Xu	Assistant Professor	Medicine

Department of Pathology Graduate Education Committee

Dr. Chandan Chakraborty (Graduate Program Chair)

Dr. Jack Bend, Director of Research

Dr. Zia Khan

Dr. Hao Wang

Dr. Candace Gibson

Dr. Nancy Chan (Program Director, PA program)

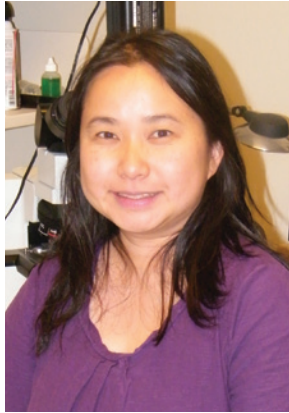
Dr. Madeleine Moussa (representative from PA program)

Arthur Lau (Graduate Student Representative)

Dr. Subrata Chakrabarti, (Chair/Chief, Department of Pathology)

Ms. Tracey Koning (Ex-Officio – Graduate Affairs Assistant)





7.B2 – Course & Practicum Based Graduate Program

Report of the Program Director, Dr. Nancy Chan

PA Program Graduates – Career Opportunities

There is a great and well-documented need for well-trained PAs in Canada. There are about 225 community labs in Ontario and the vast majority of them do not have a PA, largely due to demand exceeding supplies. We expect that if well trained PAs are available, each of these labs will hire at least one. The larger centers potentially will recruit more than one. Although the academic centers in Ontario have PAs, suitably trained PA's are in very short-supply.

Additional possibilities for employment exist in other provinces as well as in the forensic centers. It is also expected that over the next several years this need will continue to increase because of the severe shortage of practicing pathologists and pathologists-in-training, required to meet escalating clinical demands. Graduating trainees in 2010-2011 include one student who will work as a pathologist's assistant in Lethbridge, Alberta; one student will work as a pathologist's assistant in Halifax, Nova Scotia; one student entered medical school at the University of Toronto; one student took a leave of absence.

Course & Practicum Based Graduate Education Committee

- Dr. S. Chakrabarti (Program Director, exiting)
- Dr. Nancy Chan (Program Director; new)
- Dr. Mike Shkrum (Medical Director)
- Dr. Bertha Garcia (Chair/Chief, Department of Pathology)
- Dr. Candace Gibson
- Dr. Madeleine Moussa (replace Dr. Gibson while she was on sabbatical)
- Mr. Mike Graves (Clinical Coordinator)
- Dr. Rick Mann, Regional Supervising Coroner (Community Member)
- Ms Tracey Koning (Graduate Program Administrator)
- Ms Katherine Greenall (PA student representative)



Future Directions

This is an innovative new program with room to grow. The Pathology Graduate Program went through an Ontario Council on Graduate Studies (OCGS) review in 2010, and we had our site visit on May 2011. It has been determined that our future plans include expansion to accommodate more students and separating it into its own stand-alone professional program.

7.B3 – Graduate Student Publications & Presentations

- Emily Keats (PhD candidate, supervisor Dr. Zia Khan) and Rokhsana Mortuza (PhD candidate, supervisor Dr. Subrata Chakrabarti) presented at the 71st American Diabetes Association Conference in San Diego.

7.B4 – Graduate Student Awards (2010-2011)

- Margaret Moffat Research Day - 2011 Poster Competition Award Winners – Manpreet Singh (MSc, supervisor Tianqing Peng), Phaedra Henley (PhD, supervisors Jack Bend & Charlie Trick).
- MSc candidate Caroline Whiston (supervisors Dr. Alan Tuck and Dr. Ann Chambers) received the CIHR Banting & Best Masters Award.
- MSc candidate Connor MacMillan (supervisors Dr. Alan Tuck and Dr. Ann Chambers) received an NSERC award.
- Andrew Pepper, PhD Candidate, with Dr. David White has received an award from MITACS Accelerate PhD Fellowship Program (www.mitacs.ca).
- Ontario Graduate Scholarships: Arthur Lau, MSc Candidate (Research Program), Vanessa Meunier, MSc Candidate (PA Program), Maria Queques, MSc Candidate (PA Program), Yuexiu Wu, PhD Candidate (Research Program)
- PhD candidate Andrew Pepper (supervisor Dr. David White) attended the Canadian Student Health Research Forum held in Winnipeg in June, 2010. The Schulich School of Medicine & Dentistry selected the top PhD students from Schulich Graduate Programs to attend the forum.

7.B5 – Alumni Update: 2010-2011 Department of Pathology Graduates

Name	Program	Supervisor	Future Plans
Darko Zdravic	MSc	Dr. C. Chakraborty	PhD at University of Toronto
Jennifer Mutrie	MSc	Drs. A. Chambers and A. Tuck	Teachers College, UWO
Nicole Park	MSc	Drs. J. Knoll and P. Rogan	PhD at University of Toronto
Abudi Awaysheh	MSc	Dr. Jack Bend	3rd year Law Co-op student at Univ. of British Columbia
Lesley Souter	PhD	Drs. A. Chambers and A. Tuck	Looking for a job
Amina Iftexhar	MSc	Drs. T. Peng and S. Chakrabarti	Applied for admission into the PhD program at Univ. of Toronto
Brian Keller	MSc	Dr. M. Strong	Working in Dr. Strong's Research Lab
Manpreet Singh	MSc	Dr. T. Peng and S. Chakrabarti	Applying to Medical Schools in Ontario
Lei Zhang	MSc	Drs. J. Bend and Rieder	Looking for a job
Xusheng Zhang	MSc	Dr. W.P. Min	Working in a research lab at LHSC-UH

7.B6 – Graduate Course Offerings (2011-12 Academic Year)

PATHOLOGY GRADUATE COURSES					
New Course Number	Course Title	Old Course Number	Section	Coordinator	Term
Courses for Pathology Research Based MSc Students					
9510 (being phased out)	Journal Club	510Y	001	C. Chakraborty	Sept - Apr
9511 (being phased out)	Journal Club	511Y	001	C. Chakraborty	Sept - Apr
9555 (Yr 1)	Journal Club	9510	001	C. Chakraborty	Fall Term
9556 (Yr 1)	Journal Club	9510	001	C. Chakraborty	Winter Term
9557 (Yr 2)	Journal Club	9511	001	C. Chakraborty	Fall Term
9558 (Yr 2)	Journal Club	9511	001	C. Chakraborty	Winter Term
9240	Understanding Disease	240A	001	A. Haig	Sept - Dec
Courses for Pathology Research Based PhD Students					
9610 (being phased out)	Journal Club	610Y	001	C. Chakraborty	Sept - Apr
9611 (being phased out)	Journal Club	611Y	001	C. Chakraborty	Sept - Apr
9665 (Yr 1)	Journal Club	9610	001	C. Chakraborty	Fall Term
9666 (Yr 1)	Journal Club	9610	001	C. Chakraborty	Winter Term
9667 (Yr 2)	Journal Club	9611	001	C. Chakraborty	Fall Term
9668 (Yr 2)	Journal Club	9611	001	C. Chakraborty	Winter Term
9240	Understanding Disease	240A	001	A. Haig	Sept - Dec
Courses for Pathology to all students offered every other year					
9500	Biology of Human Cancer	500b	001	J. Koropatnick	Jan - Apr
9520	Public & Partnership in Cancer Research	520b	001	J. Koropatnick	Jan - Apr
Ecosystem Health Graduate Program					
9514	Ecosystem Health	514b	001	J. Bend	Jan-Apr

Courses for Pathologists' Assistant Graduate Program					
9245	Diseases of Organ Systems	240B	001	C. Howlett	Jan – Apr
9561	Functional Histology	561	001	N. Chan	Sept – Apr
9562	Infectious Diseases & Pathology	---	001	K. Kwan	Sept - Apr
9540	Environmental Pathology	540	001	C. Chakraborty	Jan – Apr
9541	Environmental Pathology – Special Topic	---	001	C. Chakraborty	Jan - Apr
9550	Intro to Forensic Sciences	550	001	M. Shkrum	Jan – Apr
9551	Intro to Forensic Sciences – Special Topic	---	001	M. Shkrum	Jan - Apr
9575	Gross Surgical Rotation	575	001	N. Chan	May - Apr
9570	Autopsy Rotation	570	001	N. Chan	May - Apr
9585	Research Project	585	001	N. Chan	May - Apr
Courses PAs are required to take in other Departments					
9560	Human Anatomy, Embryology	560	001	M. Johnson	Sept - Apr
New Courses being offered in Fall 2011					
9100	Health Informatics		001	C. Gibson	Sept - Apr
9110	Health Information Management		001	C. Gibson	Sept - Apr

7.C – Undergraduate Education Programs

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

7.C1 – Undergraduate BScN / BMSc

Dr. Candace Gibson, Undergraduate Chair



a. BMSc (NURSING)

An online course (Pathology 2420A) in general and systemic pathology is offered to the nursing students in the collaborative UWO-FC BScN program and in the Compressed Time Frame nursing program at UWO.

This is 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. Enrollment limited to students in the Western Fanshawe College collaborative BScN program.

b. BMSc – Pathology & Toxicology

In 2005 Pathology introduced a Bachelor of Medical Sciences 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
- 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.

The program underwent its first SUUPR review in 2010-11, along with the other modules/programs within the BMSc program at the Schulich School of Medicine & Dentistry and was given a “GOOD QUALITY” rating. The program will be reviewed again in seven years and several initiatives are underway to continue to grow and maintain the program.

Pathology 3240A - Understanding Disease Mechanisms

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. Offered through the Department of Pathology in the Schulich School of Dentistry and Medicine. Not a Faculty of Science course.

25 hours of lecture

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).

Prerequisite(s): Pathology 3240A with a minimum mark of 70%.

26 hours of lecture

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.

Prerequisite(s): Pathology 3240A and 3245B with a minimum mark of 70% in each.

26 hours of lecture

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.

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.

26 hours of lecture

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.

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.

Pre-or Corequisite(s): Pathology 4500B.

Extra Information: Minimum 11 laboratory hours per week plus 1 seminar hour per week. 1.5 course.

c. 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	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012
Path 240A	162	---	---	---	
Path 3240A	---	148 + 12 grads	159 + 15 grads	154 + 16 grads	
Path 3245B	---	80 + 4 grads	91 + 4 grads	100 + 4 grads	
Path 4400B	42 + 2 grad	32 + 3 grads	39 + 3 grads	40 + 4 grads	
Path 4500B	25 + 2 grad	27 + 3 grads	22 + 3 grads	25 + 5 grads	
Path-Tox 4980E	10	9	5	14	

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 courses 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:

- We will review courses and offerings – possible introduction of a histopathology course (4th year level with ACB 3319 – histology as a prerequisite); interdisciplinary stem cell biology course;
- We have introduced two new courses in health informatics that are offered at the graduate level and are available to our undergraduate students and will form part of a newly proposed interdisciplinary module in Medical Health Informatics across the Faculty of Science and the Schulich School of Medicine & Dentistry

- Monitor the upcoming changes in Toxicology that will occur in the Dept of Physiology & Pharmacology with retirements, etc – possibility of offering a molecular toxicology course through Pathology; this will be more fully investigated and developed in the coming year (2012)
- We have increased our intake of students in 2nd and 3rd and 4th years of the Pathology & Toxicology module; enrolment in 4th year, at the moment, is capped at 15 which is the maximum number of students who can be reasonably accommodated with current resources and faculty members.
- We will monitor the increased intake of students in the first year of the BSc program that has occurred in 2010 and 2011 as part of the general increased intake of students on UWO campus and adjust intake of students within the 3rd and 4th year lecture based courses to accommodate them accordingly (the first increase will impact the department in 2012-13).

Pathology & Toxicology – Graduating Students 2010-2011

Student Name	Supervisor(s)	Project
Boo, Stellar Hyeun	Drs. Lina Dagnino & Jack Bend	Potential role of integrin-linked kinase in TGF- β -mediated myofibroblast differentiation
Bowie, Laura Erin**	Dr. Steve Karlik	Anti-neuroinflammatory effects of ginseng extracts
Cipkar, Christopher	Dr. Tianqing Peng	The role of miR-195 in diabetic heart diseases
Clem, James	Dr. Edith Arany	Type 2 diabetes, nutrition, and epigenetics
Heo, Eileen Christina Dayon	Dr. John R. Trevithick	Modeling diabetic retinopathy: risk reduction by exercise, and/or Ontario ginseng alcohol and water extracts to reduce the risk of retinal capillary permeability changes
Matthews, Nicola	Drs. Weipeng Min & XiuFen Zheng	Targeted siRNA delivery using nanoparticles for RNAi-based therapeutics
Skeldon, Matthew James Tadashi	Drs. Marco Prado & Jack Bend	Cellular and molecular basis of neurodegenerative diseases
Thomas, Ashley Louise	Drs. XiuFen Zheng & Weipeng Min	Anti-tumor effect of antimicrobial peptide on breast cancer
Tsoi, Marissa Yan Yin	Dr. Rob Hammond	Whole-slide quantitative digital pathology
Wei, Yiming	Drs. Jack Bend & Michael Rieder	Attenuation of adverse drug reactions with an oxidative stress component by antioxidant and immunomodulatory constituents of traditional chinese medicines
Welten, Cassandra	Dr. Zia A. Khan	Role of stem cells in hemangioblastoma (tentative title)
Xu, Alex Xiao Hui	Dr. Hao Wang	The role of anti-CD200 in prevention of acute allograft rejection in a mouse renal transplantation model
Yan, Alexander	Dr. Zhu-Xu Zhang	The role of NK cells in chronic allograft vasculopathy
Zhang, Angela (Qiao)	Dr. Cindy L. Hutnick	The role of connexin gap junctions in human trabecular meshwork cell line exposed to oxidative stress

**Winner of the Gold Medal in Pathology & Toxicology



7.C2 – Undergraduate Medicine

Dr. Mariamma Joseph, Undergraduate Medicine Chair

Under the leadership of Dr. David Driman, Director of Education, Department of Pathology, an Undergraduate Pathology Medicine committee has been recently established (Chair Dr. M. G. Joseph) to promote excellence in undergraduate medical education (UME) through innovation in Pathology teaching and to address and resolve issues pertaining to UME. Our main objective is to promote visibility of Pathology to medical students and enhancements to consideration of Pathology as a career choice at the same time.

Since September 2008 the Schulich School of Medicine & Dentistry's Doctor of Medicine Program has run simultaneously from two sites: London, Ontario and Windsor, Ontario. In 2010-11 there were 133 students enrolled at the London site, and 38 students in the Windsor program. 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 medical curriculum provide the students with a solid grounding in the basic and clinical sciences. These two years are each divided into a series of systems-based courses:

Med I Courses

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

Med II Courses

- Digestive System & Nutrition
- Endocrine & Metabolism
- Reproduction (Course Co-Chair, Dr. M. Weir)
- Musculoskeletal System
- Emergency Care
- Neurosciences, Eye & Ear
- Psychiatry & Behavioural Sciences

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

The **third and fourth years** of the medicine curriculum include a 52 week integrated Clerkship (Medicine 5475), Clinical Electives, and the Med IV Integration, Consolidation and Enrichment.

Meds III – Clinical Clerkship Pathology Electives (Co-ordinators Dr. H. Ettler, Dr. A. Haig and Dr. K. Kwan)

During the 2 weeks, the clerk will, under the direct supervision of a pathologist or pathology resident, participate in the examination and interpretation of biopsies from various body sites. The clerk will also have the opportunity to participate in the gross examination of surgical specimens pertinent to the practice of medicine, for example: colectomies from ulcerated colitis, thyroidectomies for thyroid cancer, etc. The clerks will have the opportunity to follow-up on some of these resections by reviewing their microscopic findings the following day. They will also be encouraged to participate in the examination of frozen sections as required. The clerk will also have the opportunity to participate in the autopsy service, the emphasis being on clinico-pathological correlation. In most instances there will be ample opportunity to discuss the clinical aspects of some of the biopsies with the clinicians and pathologists as a team.

Meds IV – Clinical Electives (Co-ordinators Dr. H. Ettler, Dr. A. Haig and Dr. K. Kwan)

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 Anatomical Pathology is viewed favourably by Program Directors of various medical and surgical disciplines.

Meds IV - Integration, Consolidation & Enrichment (ICE: Medicine 5402)**Primary Care Pathology Course (Course Coordinator Dr. B. Garcia)**

This course is most suitable for those considering a career in: Family Medicine, Internal Medicine, Paediatrics, Gynecology and Surgery. It will, however, be appropriate for practically all medical career choices with the exception of research and administration.

At the end of this course, the students will be able to:

- 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. 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.

Syllabus and Course Structure: Dermatopathology, Laboratory hematology and hematopathology, Gastrointestinal Pathology, General Primary Care Issues (including, but not limited to: breast lumps, FNAB, lumps/bumps of head and neck, clinical laboratory including renal function and urinalysis, prostate cancer), Gynepathology (including pap smears), Pediatric Pathology, and Current issues update

Forensic Medicine Course (Course Coordinator, Dr. M. Shkrum)

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 topics of practical importance and will be given by experts in the various fields of interest. The opening lecture will discuss deaths requiring notification of the coroner. The course will conclude with the role of a medical expert in the legal system.

Objectives

- 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 medico legal vs. hospital autopsy.
- To understand how sudden natural unexpected death occurs.
- 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.

Lecture format. Set of lecture notes provided. Conjoint lectures will be held with the Undergraduate Pathology 4500B course.

Topics: Coroner's Act, Inquests (Medico legal-Hospital Autopsies, Cause/Manner of Death, Death Certification), The Physician as Expert Witness in Civil and Criminal Proceedings, Identification, Determination of Time of Death, Blunt Trauma - Motor Vehicle Related Deaths (2 hr); Motor Vehicle Collision Reconstruction, Forensic Neuropathology (Craniocerebral Trauma, Sudden Neurological Death), Forensic Psychiatry, Sharp Force Injuries, Firearm Injuries, Asphyxia and Burns, Sexual Assault, Forensic Toxicology (Alcohol and Drugs of Abuse), Pediatric Forensic Pathology, Sudden Natural Unexpected Death.



7.C3 – Undergraduate Dentistry

Dr. Mark Darling, Undergraduate Dentistry Chair

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

Dentistry 5162 - Systemic Pathology – Dr. J.A. Gomez, Course Coordinator

A component of the General Medicine Unit, this systems-based course runs sequentially with Human Physiology, Pharmacology, Systemic Anatomy and Medicine. The course examines specific aspects (etiology, clinical presentation, macroscopic and microscopic features, and pathogenesis) of common human diseases relevant to the practice of dentistry. Taught to first year dental students. Lectures 23 hours.

Dentistry 5170 - Oral Diseases I – Drs. M. Darling and T. Daley – Course Coordinators

An integrated course covering the common diseases of the teeth, periodontal and periapical tissues; specifically caries, gingivitis, periodontitis, pulp disease, periapical inflammation, regressive dental conditions and dental anomalies. Taught to first year dental students. Lectures 43 hours; Labs 1 hour

Dentistry 5235 - Oral Diseases II – Drs. M. Darling and T. Daley – Course Coordinator

This integrated course combines oral medicine, oral pathology and oral radiology to cover a variety of diseases that affect the hard and soft tissues of the mouth, head and neck. Taught to second year dental students. 29 lecture hours, 5 lab hours, 0 clinic hours (Total 34 hours)

Dentistry 5304 - Oral Pathology – Drs. M. Darling and T. Daley – 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

This course is for the dental students in the Qualifying Program and runs from September – April. The instructors will teach common, and/or important, and/or site specific diseases of the oral soft tissues, jaws, teeth and related structures. 59 Lecture hours.



7.D – Update on Professional & Education Development

Dr. Keith Kwan, Continuing Professional Development

The Department of Pathology Professional Development Committee coordinates a variety of general and subspecialty pathology rounds, and assists in accreditation of these rounds with the Royal College. Pathology Grand Rounds occur on a monthly basis during the academic year (October to May), bringing in speakers from a variety of centers and disciplines, and are 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.

Professional Development Committee (CME)

No fixed term, appointed by Chair

Dr. David Ramsay

Dr. Mariamma Joseph

Dr. Subrata Chakrabarti

Dr. Nancy Chan

Mair Hughes (Ex-officio – Administrative Officer)

Dr. Keith Kwan, Chair

Dr. Chris Armstrong

2010-2011 Pathology Grand Rounds

Date	Speaker	Topic
Oct 13, 2010	Dr. Manal Gabril Department of Pathology	“Informatics for Practicing Anatomical Pathologists: Marking a New Era in Pathology Practice.”
November 10, 2010	Dr. Mark Vincent Department of Oncology	“The importance of subtyping in advanced NSCLC.”
December 8, 2010		Cancelled due to weather
January 12, 2011	Dr. Michael Shkrum and Elena Tugaleva Department of Pathology	“Forensic Pathology in Foreign Lands.”
February 9, 2011	Dr. Claire Temple Department of Surgery	“Managing in transit Melanoma Metastases.”
April 13, 2011	Dr. Bertha Garcia Department of Pathology	“The Yemen Experience!”
May 11, 2011	Drs. C.M. McLachlin, M. Weir and H. Ettler Department of Pathology	“A Review of Quality Initiatives in Pathology at LHSC and in Ontario.”

7.E – Expanding our Educational Reach in the Region and Around the World

Dr. Chakrabarti is an examiner of international graduate programs (MSc and PhD) at Gujrat University, Calcutta University, India and has been a graduate program reviewer of pathology at Kuwait University, Kuwait.

In Yemen, Dr. Garcia is an advisor to the President of Yemen through the Canadian Medical Delegation and as such, she has done an audit of the Undergraduate Medical Programs at the University of Science and Technology (UST), The University of Sana'a and the University of Aden. She is currently engaged in an advisory capacity in the preparation of the UST for Accreditation through the Arab Board and the WHO (World Association of Faculties of Medicine). Dr. Garcia is currently on the Organizing Committee of the Health Professions Education Accreditation Conference.

The Schulich School of Medicine & Dentistry recently launched a dual PhD program with Western China University and the first recruit of this initiative, Dr. Shuhua Luo, arrived this fall from Chengdu, China. Several faculty members travel each year to teach Pathology to medical students at St. George's University Medical School in Grenada. In the past year Dr. Ramsay has lectured at the University of Malaga in Spain.

Dr. Bend is a member of the IDRC-funded research project concerning the sustainability and public health of Lake Naivasha in Kenya that is being pursued between an interdisciplinary team of researchers led by Professor Charles Trick, the Ivey Chair in Ecosystem Health at Schulich Medicine & Dentistry and the Faculty of Science at Western and Professor William Shivoga of the Faculty of Environmental Sciences, Egerton University, Kenya.

From the clinical and humanitarian point of view, several of our pathologists provide pro-bono consultation services with health institutions in South America, Middle East, Africa and Asia. Dr. E. Tugaleva was Canadian representative in the Disaster Victim Identification Interpol mission following the Haiti earthquake. Dr. Garcia has been an active member of PAMS (Peruvian American Medical Society) and has participated in short-term medical missions to the Andes of Peru for the past 15 years. She is also a member of a non-for-profit organization: Pathologists Overseas, who seek to train pathologists in greatly underserved areas of the world (mostly Africa) by providing "on site" residency training to local physicians through an international cadre of volunteer pathology educators.

Since 1993, Dr. M Joseph has served as a Consultant Pathologist (pro bono) to the Regional Cancer Center in Kerala, India. Dr. Joseph gives yearly CME symposia, workshops and lectures to the pathologists in the Kerala region of India.



Section 8 – Research

8.A – The Department of Pathology Research Report 2010-11

Director of Research, Dr. J. Bend

Overview

The researchers in the Department of Pathology have continued to maintain and grow their respective research programs. The Department has made major inroads in its plans to enhance its research capacity, capability, productivity and impact. To this effect, the Department has been able to increase its faculty complement (both basic and clinical researchers), develop a significantly larger and more comprehensive graduate program with a small core but very productive research faculty and cross-appointees in both Basic Science and Clinical Departments in Schulich, and in the Faculties of Science and Social Science. At a recent retreat, Department members made a commitment to foster further growth in research.

The Schulich School of Medicine & Dentistry has identified several areas of research excellence including: Cancer; Heart Disease; Vascular Biology and Respiration; Maternal/Fetal, Child and Family Health; Neuroscience and Mental Health; Musculoskeletal Health; and Transplantation, Immunology, Infectious Diseases and Diabetes. As will be evident from the following discussion, researchers from the Department of Pathology are active participants in many of these areas.

Scope of our research

Members of Pathology are a critical component of many of Schulich's research programs and initiatives. Our faculty members have played and continue to play leading roles in some of the research areas of recognized excellence, and a collaborative role in others. Members of our department collaborate with investigators from the Robarts Research Institute, Lawson Health Research Institute, and the London Regional Cancer Institute within Schulich and with other Faculties at Western.

Departmental Research Programs

Research in Pathology includes both investigator-driven research, initiated by the core members of the department, and collaborative research with members of other departments. Members of the Department of Pathology are involved with, and are key players in almost every signature program of the Schulich School of Medicine & Dentistry. Listed below are a few specific research programs in which the Department of Pathology is playing a major role.

Transplant research

Research in transplantation (clinical and experimental) is one of our Department's focus areas, and has demonstrated strong growth during the last year. The backbone of the xenotransplant program is the expertise of people such as Drs. Bertha Garcia, David White and Weiping Min (cross appointees from Surgery), and Zhu-Xu Zhang (cross appointee from Medicine).

Dr. Garcia is the Director of the core laboratory of the Multi-Organ Transplant Program's (MOTP) experimental arm which resides in Pathology. This group of researchers is funded from CIHR, HSFO, MOTP, NIH, and other national and international organizations. Research in this field has been very productive with a large number of publications in high impact journals.

Cancer research

The Department of Pathology has a strong presence in the field of cancer research in both the experimental and clinical areas. The key researchers in this area are Drs. Chandan Chakraborty, Joan Knoll, Alan Tuck and Ann Chambers (cross-appointee from Oncology) (Breast Cancer); Madeleine Moussa and Jose Gomez (Prostate Cancer); Kamilia Rizkalla (Hematologic Malignancies); David Driman and Jeremy Parfitt (GI and Hepatobiliary Cancer); Mariamma Joseph (Skin and Pulmonary Cancers); Meg McLachlan and Michele Weir (Gynecological Cancers); Bret Wehrli (Soft Tissue Tumors); Lee Cyn Ang and Robert Hammond (Neurological Cancer); and Thomas 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. Several pathologists are also heavily involved in clinical trials. Department members continue to produce high quality publications in basic, clinical and translational aspects of cancer research.

Vascular biology research

Vascular biology researchers have focused their attention on chronic complications of diabetes (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 with respect to signal transduction.

The recent recruitment of Dr. Zia Khan and appointment of Dr. Edith Arany to our department have further expanded the scope of vascular biology research. Dr. Khan's program is focused on endothelial progenitor (stem cells) and their role in diabetic complications and in vascular tumours. Since being appointed as an Assistant Professor, Dr. Khan has received funding from CIHR and CDA as well as LHRI. Dr. Arany is involved in delineating the mechanisms of islet development in the pancreas.

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 departments 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 (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, the Association of Universities and Colleges of Canada, UWO international curriculum funds and the IDRC.

Genetics research

The department has been successful in recruiting and repatriating a highly qualified and seasoned researcher in molecular pathology and cytogenetics from the USA (Dr. Joan Knoll). Dr. Knoll has already received CFI funding for translational molecular / molecular cytogenetics research infrastructure and has graduated her first MSc student in Pathology. 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 roles in the development of innovative research methodologies and implement them at all levels of education. Drs. Bertha Garcia and Candace Gibson are leaders at Schulich in this area.

Others

As mentioned earlier, the areas above represent some of the research activity and expertise of the Department. A large amount of collaborative research occurs within Pathology and with other basic and clinical departments at Schulich which is dependent upon the active, key participation of our departmental members.

Faculty research interests:

Adams*: Hemochromatosis, liver diseases

Ang: Neurodegenerative and neurotoxic diseases, CNS tumours

Arany: Diabetes, mechanisms of islet development

Bend: Mechanisms of toxicity of endogenous and exogenous chemicals, oxidative stress, attenuation of adverse drug reactions; environmental toxicology in First Nations and at Lake Naivasha, Kenya

Chakrabarti: Chronic diabetic complications, diabetic retinopathy, diabetic cardiomyopathy, extracellular matrix proteins, epigenetics, natural products

Chakraborty: Intrauterine growth retardation (IUGR), preeclampsia, tumour progression, cell migration/invasion, cell signalling

Chambers*: Molecular oncology, mechanisms of tumour 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, ecosystem health in South America

Gibson: Neurochemical pathology, CNS ageing & neurodegeneration transmitter release; research in communications and education

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, molecular and cancer genetics, genomics, bioinformatics

Koropatnick*: Metallothionein and resistance to radiation and chemotherapeutic drug treatment; siRNA therapy

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)

Summary Publication Data (July 1, 2010 to June 30, 2011)

	Published Peer reviewed journal articles	Published Books & Book Chapters	Published Abstracts	Published Case Reports	Totals
MD/CTA	47	1	16	2	66
PhD/Scientists	9	5	4	0	18
Totals:	56	6	20	2	84

Summary Invited Scientific Lectures and Presentations (July 1, 2010 to June 30, 2011)

	Invited Lectures National	Invited Lectures International	Abstracts & Posters National	Abstracts & Posters International	Totals
MD/CTA	20	8	21	20	69
PhD/Scientists	3	0	5	4	12
Totals:	23	8	26	24	81

Summary New Grant Funding Data (July 1, 2010 to June 30, 2011)

	# Awards	Total Award	2010-11 Funding
Externally Funded – PI	23	\$5,156,599	\$1,627,109
Externally Funded – Co-Inv	17	\$9,612,158	\$2,498,244
Internally Funded – PI	18	\$192,176	\$134,714
Internally Funded – Co-Inv	3	\$150,000	\$115,000
Total Grant Funding:		\$15,110,933	\$4,375,067

Building of research infrastructure

The Pathology Department continues to provide a significant amount of research infrastructure which is frequently organized as core facilities at LHSC or UWO to facilitate research of investigators in London. It is our goal to support as many researchers as possible with this infrastructure.

- | | | |
|------------------------------------|---------------------------|-----------------------------------|
| 1) Tissue preparation facility –UH | 4) OICR tissue collection | 7) Palm Laser Dissection |
| 2) Transplant histology lab | 5) Morphometry core | 8) Shared Multimedia Resource and |
| 3) Tissue and Archives | 6) Real-time PCR core | Teaching Centre (SMART) Centre |

Postdoctoral Fellows, Postdoctoral Associates, Visiting Scientists

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

Dr. Subhrojit Sen (Dr. Chakrabarti) – Effects of ginseng on chronic diabetic complications

Dr. Linbo Zhang (Dr. Chakrabarti) – FGF in chronic diabetes complications

Robert Zhong Research Seminars – Dr. David Driman, Coordinator

In 2006 the Department of Pathology Research Committee initiated a monthly research seminar, named after Dr Robert (Zheng) Zhong, with the purpose of capturing the research interests of our department and the wider university and hospital community. The objectives are to enhance our departmental basic and clinical science research, and to improve communication within the department and between departmental members and other researchers in the city. It is an important forum for research staff and faculty to present their work, get feedback on their research from the whole group, and stimulate new ideas and initiate collaboration. These seminars are focused on a broad audience including basic scientists, pathologists, clinicians, residents and graduate students. The seminars are accredited by the Royal College, Maintenance of Certification program.

2010-2011 Zhong Research Seminars

Date	Speaker	Topic
October 7, 2010	Dr. David White, PhD, FRCP – Professor of Surgery & Pathology Director/Scientist, Transplantation & Pathology, Schulich School of Medicine	“A Novel Technique for Islet Transplantation which is Islet Sparing”
November 4, 2010	Dr. Guido Filler, MD, PhD, FRCPC – Professor of Paediatrics & Chair/Chief, Department of Paediatrics Children’s Hospital, LHSC & Schulich School of Medicine & Dentistry	“The Barker Hypothesis and Beyond, or what does the Battle of Arnhem have to do with obesity and hypertension?”
February 3, 2011	Dr. J. Michael Strong, MD, FRCP, FANN, FCAHS – Dean, Schulich School of Medicine & Dentistry Cross Appointment & Adjunct Professor Scientist, Molecular Brain Research Group	“Pathogenesis of Cognitive Impairment in ALS”
April 7, 2011	Dr. Anthony M. Jevnikar, M.Sc., MD, FRCP – Professor, Department of Medicine, Co-Director, Multi Organ Transplant Program, LHSC	“Innovation in Immunosuppression – What Are the New Targets”
June 2, 2011	Dr. J. Q. Madrenas, MD PhD – Canadian Research Chair in Immunobiology, Professor, Microbiology & Immunology and Medicine, Head of Immunology, Robarts Research Institute, Associate Director, Centre for Human Immunology	“Slipin Beauty: Awakening Mitochondrial Function with SLP2”

2011 Annual Pathology Research Day – Dr. Alan Tuck, Coordinator

Pathology Research Day is an annual event organized to recognize research excellence and promote collaboration, targeting our clinical and basic science faculty members, residents, postdoctoral and clinical fellows, MSc and PhD students and technical staff. This full day event allows our trainees to present their research in oral presentations and poster sessions.

Pathology Research Day 2011 took place on Tuesday, May 3rd and was a great success. Guest speaker Dr. Torsten Nielsen, Associate Professor and clinician-scientist in the Department of Pathology and Laboratory Medicine at UBC, presented his talk entitled: “Resident Research Project to Clinical Trail: A 10 Year Journey”.

2011 Research Day Awards

- Chair’s Award for Best Presentation by a Resident - **Dr. Hector Li**
- Second Place Award for Best Presentation by a Resident - **Dr. Mara Cargea**
- Dr. M. Daria Haust Award for Best Presentation by a Graduate Student - **Andrew Pepper**
- Second Place Award for Graduate Students - **Jamie Belo**
- Poster Presentation Award for a Graduate Students - **Jessica Dubrick**
- Dr. Cameron Wallace Graduate Student Award in Pathology - **Yuexiu Wu**



Challenges Ahead

Pathology has continued to make excellent progress in research during the last year, however this growth of research potential is limited by the shortage of high quality wet laboratory research space and adequate space for core 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. Another challenge for all investigators is the decrease in available research funds (due to difficult economic times) that also impact negatively on our research endeavors.



8.B – Publications, Book Chapters and Abstracts

Journal Articles Published (July 1, 2010 to June 30, 2011)

1. Sy J, Alturkustani M, **Ang LC**. Intracallosal longitudinal fiber bundle: an unexpected finding mimicking demyelination in a patient with Turner syndrome. *Acta Neuropathol*. 2010 Oct;120(4):545-7. Epub 2010 Jul 23.
2. Jiang YJ, **Ang LC**, Blume WT. Extent of EEG epileptiform pattern distribution in "focal" cortical dysplasia *J Clin Neurophysiol*. 2010 Oct;27(5):309-11
3. Fang L, Deng Z, Shatseva T, Yang J, Peng C, Du WW, Yee AJ, **Ang LC**, He C, Shan SW, Yang BB. MicroRNA miR-93 promotes tumor growth and angiogenesis by targeting integrin- β 8 *Oncogene*. 2011 Feb 17;30(7):806-21. Epub 2010 Oct 18.
4. Sy J, **Ang LC**. Cytomorphologic spectrum of mixed pituitary adenoma-gangliocytomas: a report of two cases. *Acta Cytol*. 2010 Sep-Oct;54 (5 Suppl):981-4
5. Haji FA, Patel YK, **Ang LC**, Megyesi JF. A case of mistaken identity: spinal epidural angioliipoma. *Can J Neurol Sci*. 2011 Mar;38(2):357-9
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14. **Daley T, Darling MR**. Metastases to the mouth and jaws: a contemporary Canadian experience. *J Can Dent Assoc*. 2011 Jun;77:b67.
15. **Daley TD**, Minett CP, **Driman DK, Darling MR**. Oral metastatic hepatocellular carcinoma: a changing demographic in Europe and North America. Immunohistochemical advances in the microscopic diagnosis. *Oral Oncol*. 2011 Jan;47(1):62-7. Epub 2010 Aug 21.
16. **Darling MR, Wehrli B**, Zeligman E, Smillie J, **Daley T**. Unusual Benign Smooth Muscle Lesions of the Tongue: Review and Report of Two Cases. *Head Neck Pathol*. 2010 Nov 30. [Epub ahead of print].
17. **Driman DK**, Nhan C, Raby M, Smith AJ, Hunter A, Srigley J, McLeod RS. Rectal Cancer Pathology Reporting in Ontario: A contemporary audit of margin and lymph node assessment *Can J Pathol* 2011;3:21-25
18. Shahid S, Fraser DD, **Driman DK**, Bax KC. Severe hypernatremic dehydration and metabolic acidosis due to neonatal intestinal microvillus inclusion disease. *Neonatology* 101(2):154-158
19. AlAmeel T, **Driman DK**, Reynolds, RP. A middle-aged woman with persistent gastrointestinal bleed *Saudi J Gastroenterol*. 2011 May-Jun;17(3):218-9.
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4. Wang C, George B, Chen S, Feng B, **Chakrabarti S**. Oxidative stress induced activation of novel DNA repair enzymes, ERCC1 and ERCC4, and increased Extracellular matrix protein production in the kidneys in diabetes. *Diabetes* 59 (suppl1): A257, 2010
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6. Feng B, Chen S, McArthur K, Wu Y, **Chakrabarti S**. miR146a mediated upregulation of extracellular matrix protein in diabetic retinopathy. *Diabetes* 59 (suppl 1): A63, 2010.
7. McRae S, Hughes B, **Chan N, McLachlin CM**, Chan S, **Weir MM**. Comparison of LHSC and Bethesda thyroid FNAB diagnostic categories Canadian Association of Pathologists' Annual Meeting.
8. Nhan C, **Driman DK**, Raby M, Smith AJ, Hunter A, Srigley J, McLeod RS. Rectal cancer pathology reporting in Ontario: results of a 2007 audit of margin and lymph node reporting. *Canadian Surgery Forum*, Quebec City, September 2010.
9. Messenger DE, **Driman DK**, McLeod S, Riddell RH, Kirsch R. Current practice patterns among pathologists in the assessment of venous invasion in colorectal cancer *Mod Pathol* 11;24:434A
10. Patrick L, **Garcia B**. CORM-2 protects against ischemia-reperfusion injury in kidney transplantation *Kidney International*
11. Zheng X, Suzuki M, Zhang X, Ichim TE, Zhu F, Ling H, Shunnar A, Wang MH, **Garcia B**, Inman RD, Min WP. RNAi-mediated CD40-CD154 interruption promotes tolerance in autoimmune arthritis. *Arthritis Res Ther*. 2010;12(1):R13.
12. **Gibson CJ**, von Lubitz DKJE. Collaborative Leadership in the World of Technology: Building Teams of Leaders, itHealthcare Canada Conference, Toronto, ON, October 4, 2010. Also given as a platform presentation.
13. **Hammond R, Ang LC**, Selcen D, Goobie S, Campbell C. Hypertonic muscular dystrophy: recent cases and review CANP, Toronto, ON, October, 2010

14. V Hayward, C Temple, **M Joseph**. Webcasts for clinical clerks - An innovative way for improving the family physician's knowledge and competence in managing skin lesions Platform presentation by V Hayward at the 16th Congress of the International Confederation for Plastic Reconstructive and Aesthetic Surgery, Fairmount Hotel, Vancouver, Canada, May 22-27, 2011.
15. Akila Subasinghe A, Samarabandu J, **Knoll J**, Khan W, Rogan P. An accurate image processing algorithm for detecting FISH probe locations relative to chromosome landmarks on DAPI stained metaphase chromosomes. *Computer and Robot Vision (CRV) 2010 Proceedings*, Pages: 223-230.
16. Akila Subasinghe A, Samarabandu J, **Knoll JHM**, Khan W, Rogan PK. An image processing algorithm for accurate extraction of the centerline from human metaphase chromosomes. *Proceeding of the International Conference on Image Processing (IEEE Signal Processing Society)*. Published in 2010.
17. **Rizkalla K**, Hamm C, Allevato P. Mantle Cell Lymphoma in-situ LW79 The XVth Meeting of the European Association for Haematopathology, Uppsala, Sweden, Sept 2010
18. Fok TC, **Daley TD**, Lapointe HJ, **Tuck AB**, Chambers AF, Jackson-Boeters L, Darling MR. Osteopontin, HCAM /CD44 and Integrin $\alpha\beta 3$ in Salivary Gland Tumours. 89th General session and exhibition of the International Association for Dental Research. *Journal of Dental Research* 2011; 90 (Special Issue A): 2316., San Diego, California, United States, 2011 Mar 19.
19. Mutrie, JC, Anborgh, PH, **Tuck, AB**, Chambers, AF. Osteopontin increases breast cancer cell sensitivity to specific signaling pathway inhibitors. AACR-MRS Joint Conference on Metastasis and the Tumor Microenvironment, Philadelphia, Pennsylvania, United States, 2010 Sep 15.
20. Souter LH, Postenka CO, Andrews JD, Rodenhiser DI, Chambers AF, **Tuck AB**. The role of S100A2 in the transition to the invasive phenotype as identified and characterized by the human 21T series 3D model of breast cancer progression AACR-MRS Joint Conference on Metastasis and the Tumor Microenvironment, Abstract #A143, Philadelphia, Pennsylvania, United States, 2010 Sep 15.

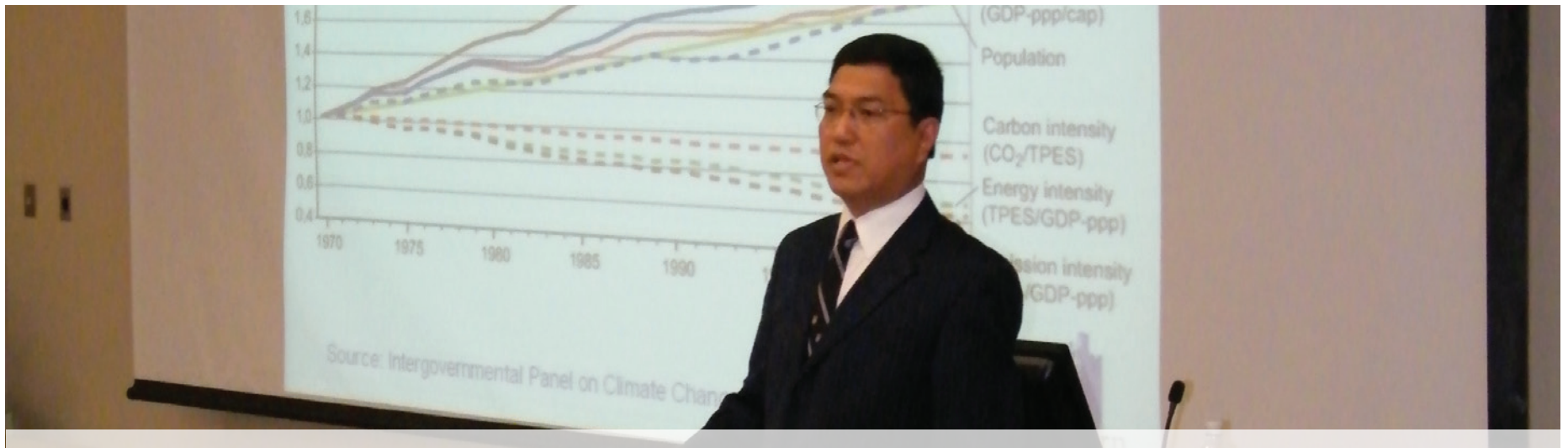
Books & Book Chapters Published (July 1, 2010 to June 30, 2011)

1. Walpole Island First Nation Heritage Centre Team: Jacobs D, White D, Williams NC, Williams R, UWO Ecosystem Health Research Team: **Bend J**, Corbett B, Darnell R, Herbert CP, Hill J, Koren G, Rieder M, Schoeman K, Stephens C, Trick C, Van Uum S. Health Risk of the Walpole Island First Nation Community from Exposure to Environmental Contaminants: a Community-Based Participatory Research Partnership. Chapter 4, pp. 49-55 In *Aboriginal Policy Research: Health and Well-Being, Volume IX*, Edited by White, J.P., Peters, J., Dinsdale, P. and Beavon, D., Thompson Educational Publishing, Inc, Toronto, 2011.
2. Danam RP, Verger P, Knaap A, **Bend JR**. Glycerol Ester of Gum Rosin (addendum) (First draft). In WHO FOOD ADDITIVES SERIES: 62: Safety evaluation of certain food additives. International Programme on Chemical Safety, World Health Organization, Geneva, 2010 pp 119-132.

3. Danam RP, Verger P, Knaap A, **Bend JR**. Glycerol Ester of Tall Oil Rosin (addendum) (First draft). In WHO FOOD ADDITIVES SERIES: 62: Safety evaluation of certain food additives. International Programme on Chemical Safety, World Health Organization, Geneva, 2010 pp 133-148.
4. **Khan ZA, Chakrabarti S**. Chronic diabetic complications: endothelial cells at the frontline In: *Frontiers in Cardiovascular Drug Discovery*. Bentham Science Publishers Ltd, Chap 9, pp 121-137; 2010.
5. **Khan ZA, Chakrabarti S**. Glucose-induced cellular signalling in diabetic retinopathy In: *Visual Dysfunction in Diabetes: The Science of Patient Impairment and Health Care*. Humana Press. Ch. 26 2010
6. Chambers A.F., Vandenberg T.A., **Tuck A.B.**, Allan A.L., Rodenhiser D.I. Emerging science with regard to 'cancer stem cells' - Looking at different molecular phenotypes in that category and dissecting out triple negatives. ASCO 2011 Breast Cancer Symposium Education Book.

Case Reports Published (July 1, 2010 to June 30, 2011)

1. Vilos AG, Smithson DS, Vilos G, **Armstrong CE**. Ureter in Histopathologic Specimen: A Gynecologist's Nightmare From the Departments of Obstetrics and Gynecology (Drs. A.G. Vilos, Smithson, and G.A. Vilos), and Pathology (Dr. Armstrong), St. Joseph's Health Care and London Health Sciences Centre, The University of Western Ontario, London, Ontario, Canada.
2. Fraser LA, Kiaii B, Shaban J, Islam A, Diamantouros P, Jones PM, **Tweedie E**, Varghese R, Van Uum S. Cardiac pheochromocytoma presenting during pregnancy. *BMJ Case Reports* 2010; doi:10.1136/bcr.04.2010.2890



8.C – Invited Lectures - National

1. **Chakrabarti S.** “Pathogenesis of diabetic retinopathy, endothelial cells at the frontline.” Invited talk at the Faculty of Pharmaceutical Sciences. University of British Columbia. Canada. 2011/05.
2. Ward AD, Crukley C, McKenzie C, Montreuil J, Gibson E, **Gómez JA, Moussa M**, Bauman G, Fenster A. Podium Presentation: “Registration of in vivo prostate magnetic resonance images to digital histopathology images”. Medical Image Computing and Computer-Assisted Intervention (MICCAI) Prostate Imaging Workshop. 2010.
3. Ward AD, Crukley C, McKenzie C, Montreuil J, **Gómez JA, Moussa M**, Bauman G, Fenster A. “Podium Presentation: “Registration of in vivo medical images to digital histopathology images”. Annual Meeting of Canadian Organization of Medical Physicists. 2010.
4. **Gómez-Lemus JA.** “Imaging Applications in Prostate Cancer.” CIHR. Canada. 2010/11/19.
5. **Hammond R.** 3D Histology in Carotid Atheroma, CAIN2 Symposium, Montreal, April 29, 2011
6. **Hammond R.** Graduate applicants: Canadian Medical School survey and report to CCME, Toronto, May 2011
7. **John MA.** “ESBL’s and MDRO’s Impact Across the Continuum of Care.” CHICA SW Ontario Chapter Education Day. Canada. 2011/04/15.
8. **John MA.** “Multi-Drug Resistant Organisms: Protecting Ourselves and our Patients.” Post Anaesthetic Care Conference. Canada. 2011/04/16.
9. **Khan ZA.** “Stem/progenitor cells in diabetic complications.” 1st Annual Diabetes Research Day. Canada. 2010/11.

10. McRae S, Hughes B, **Chan N, McLachlin CM**, Chan S, **Weir MM**. “Comparison of LHSC and Bethesda thyroid FNAB diagnostic categories.” Canadian Association of Pathologists’ Annual Meeting. Canada. 2010/07.
11. **McLachlin CM**. “Path2Quality - Developing Best Practice Guidelines in Quality Assurance for Ontario’s Pathologists.” Ontario Hospital Association. Canada. 2011/04/04.
12. **McLachlin CM**. “Overview of the CAP Cancer Checklist for Ovary.” WebEx/Teleconference. Cancer Care Ontario. Canada. 2011/02/09.
13. **McLachlin CM**. “Political and Economic Update.” Ontario Association of Pathologists, 72nd Annual General Meeting. Canada. 2010/10/01.
14. **McLachlin CM**. “Gyne Oncology Specimens - Streamlining the Process.” Cancer Care Ontario, Regional Pathology Gyne-Oncology Workshop. Canada. 2010/10/28.
15. **Parfitt J**. “Pathology Gastroenterology presented at Canadian Association of Pathologists Annual Residents Review Course.” Canadian Association of Pathologists Annual Residents Review Course. Canada. 2011.
16. **Ramsay, D**. “The Brain Tumour Tissue Bank: Past, Present and Future.” Brain Tumour Foundation of Canada 25th Annual Information Day. 2010/10.
17. **Weir MM**. “Use of Immunohistochemistry in Gynecological Tumours.” Ontario Association of Pathology. Canada. 2010/09.
18. **Weir MM**. “Thyroid FNA Terminology: From Bethesda to Beyond.” Ontario Society for Medical Laboratory Sciences. Canada. 2010/10.
19. **Weir MM**. “Thyroid FNA Terminology.” Brampton Peel Memorial Hospital. Canada. 2010/10.
20. **Weir MM**. “Thyroid FNAB Reporting: From Bethesda to Beyond.” Stratford General Hospital, Department of Pathology. Canada. 2011/02.
21. **Weir MM**. “Gross Pathology. Canadian Association of Pathologists, 1st Annual Residents’ Review Course.” Canada. 2011/03.
22. **Xu J**. “Genetic Testing for Diagnosis and Prognosis of Human Disease.” The 4th Multidisciplinary Symposium of Ontario Chinese Professors. Kellerman’s Resort. Canada. 2010/07/02.
23. **Xu J**. “FISH Testing for HER2 in Breast Cancer: Brief Reviews or Guidelines, Controversy and Advancement.” Great Lakes Chromosome Conference. Canada. 2011/05/20.

Invited Lectures - International

1. **Chakrabarti S.** “Slide Seminar.” Department of Pathology, Beijing Second Hospital, Beijing PR China, 2010/09.
2. **Chakrabarti S,** Sen S, Chen S, Feng B, Lui EMK. Panax quinquefolius (American ginseng) prevents chronic complications in type 1 and type 2 diabetes through its antioxidative and antihyperglycemic effects. The 10th international symposium on ginseng. Seoul S. Korea, 2010/10.
3. **Chakrabarti S.** “Epigenetics and miRNA in ECM protein production in diabetic retinopathy.” ARVO Special interest group on Extracellular matrix in ocular diseases. ARVO special interest group. United States. 2011/05.
4. Ward AD, Crukley C, McKenzie C, Montreuil **J, Gómez JA, Moussa M,** Bauman G, Fenster A. “Podium Presentation: “Registration of in vivo medical images to digital histopathology images”. Annual Meeting of American Association of Physicists in Medicine. 2010.
5. **Ramsay D.** “Comentarios sobre aspectos problemáticos en el estudio de los traumatismos craneoencefálicos.” Curso de Neuropatología Forense; Primero Congreso de la Sociedad Española de Patología Forense. Spain. 2011/05.
6. **Ramsay D.** “Abordaje neuropatológico en los casos sospechosos de maltrato infantil.” Curso de Patología Pediatra Forense; Primero Congreso de la Sociedad Española de Patología Forense. Spain. 2011/05.
7. **Ramsay D.** “Traumatismos Craneo-encefálicos.” Final Year Medical Students. University of Málaga. Spain. 2010/09.
8. **Ramsay D.** “Traumatismos Craneoencefálicos: Problemas frecuentes para el patólogo.” Curso de Formación Continuada en Patología Forense, Administración Pública de la Junta de Andalucía y Instituto Andaluz de Administración Pública y la Universidad de Málaga (Departamento de Medicina L. Spain. 2010/09.

Abstracts Presented – National

1. Alturkustani MA, **Ang LC.** “Rosette-forming glioneuronal lesion of 4th ventricle in patient with NF1: hamartoma vs tumour?” Canadian Association of Neuropathologists 50th Annual Meeting. Canada. 2010/10/14.
2. Hamilton B, Sy J, **Ang LC,** Chakrabarti S, Megyesi J. “Molecular cytogenetic markers for recurrent vs non-recurrent meningiomas.” . Canadian Association of Neuropathologists 50th Annual Meeting. Canada. 2010/10/14.
3. Al Sufiani F, **Ang LC.** “Giant cell change/transformation in pituitary adenoma.” Canadian Association of Neuropathologists 50th Annual Meeting. Canada. 2010/10/14.

4. Feng B, Chen S, McArthur K, Wu Y, **Chakrabarti S**. Intravitreal delivery of miR200b prevents diabetic retinopathy associated changes. Canadian Diabetes Association Annual meeting, Canada 2010/10.
5. Feng B, Chen S, McArthur K, Wu Y, **Chakrabarti S**. P300 regulates microRNA mediated modulation of gene transcription in diabetes. Canadian Diabetes Association Annual meeting, Canada 2010/10
6. Nhan C, **Driman DK**, Raby M, Smith AJ, Hunter A, McLeod RS. "Rectal cancer pathology reporting in Ontario: results of a 2007 audit of margin and lymph node reporting." Canadian Surgery Forum. Canada. 2010/09.
7. McIntosh K, Chande N, **Driman D**, Gregor J, Khanna N. "Eosinophilic esophagitis and celiac disease: Is there an association." Canadian Digestive Diseases Week. Canada. 2011/03.
8. Irimies A, **Gabril M, Parfitt J, Joseph M**. "Basal cell carcinoma with pilomatrical differentiation: a case report and review of the literature." Canadian Association of Pathologists, Annual Meeting 2010. Canada. 2010/07.
9. Siddiqui I, **Driman DK, Gabriel M**. "Adenocarcinoma Arising in Cystic Rectal Duplication, Preceded by Retrorectal Dermoid Cyst: A Case Report." Canadian Association of Pathologists, Annual Meeting 2010. Canada. 2010/07.
10. **Hammond R, Ang LC**, Selcen D, Goobie S, Campbell C. Hypertonic muscular dystrophy: recent cases and review. CANP, Toronto, ON, October 2010
11. Chan S, Garcia F, **Moussa M, Gabriel M**. "An in Depth Study of Extraprostatic Extension and Margin Status in Radical Prostatectomies." Canadian Association of Pathologists, Annual Meeting 2010. Canada. 2010/07.
12. **Gabril M**, Youssef G. "Automated Image Analysis Of Microvascular Density In Clear Cell Renal Cell Carcinoma And Its Prognostic Utility." Canadian Association of Pathologists, Annual Meeting 2010. Canada. 2010/07.
13. **Gabril M**, Jacques R, **McLean C, Shkrum M**. "Two Unusual Presentations of Clostridium Septicum Aortitis." Canadian Association of Pathologists, Annual Meeting 2010. Canada. 2011/06.
14. Lan Z, Ge W, Arp J, Liu W, Brand S, Healey D, Nicolette C, **Garcia B**, Wang H. "Suppression of Antidonor Antibody Response by Soluble CD83 Prevents Chronic Renal Allograft Rejection." Abstract #15B. Canadian Society of Transplantation 2010 Annual Scientific Meeting. Canada. 2010/08/12.
15. Ge W, Jiang J, Arp J, Liu W, Jevnikar A, **Garcia B**, Wang H. "Regulatory T-Cell Generation and Kidney Allograft Tolerance Induced by Mesenchymal Stem Cells Associated with Indoleamine 2,3-Dioxygenase Expression." Abstract #13B. Canadian Society of Transplantation 2010 Annual Scientific Meeting. Canada. 2010/08/12.

16. Lan Z, Ge W, Arp J, Jiang J, Lian D, Liu W, Healey D, Nicolette C, Jevnikar A, **Garcia B**, Wang H. "Induction of Kidney Allograft Tolerance by Soluble CD 83 Associated with Prevalence of Tolerogenic Dendritic Cells and Expression of Indoleamine 2,3-dioxygenase." Abstract #16B. Canadian Society of Transplantation 2010 Annual Scientific Meeting. Canada. 2010/08/12.
17. **Gibson CJ**, von Lubitz DKJE. Collaborative Leadership in the World of Technology: Building Teams of Leaders, itHealthcare Canada Conference, Toronto, ON, October 4, 2010.
18. Gibson E, Crukley C, Montreuil J, McKenzie C, **Gómez J**, **Moussa M**, Romagnoli C, Chin JL, Bauman G, Fenster A, Ward AD. "Registration of prostate MRI to digital histopathology: Image guided slicing and retrospective fiducial-based virtual tissue reassembly. Imaging Network Ontario Symposium. Toronto, Canada. January 2011." Canada. 2011/01/31.
19. Akila Subasinghe A, Samarabandu J, **Knoll J**, Wahab K, Rogan P. An accurate image processing algorithm for detecting FISH probe locations relative to chromosome landmarks on DAPI stained metaphase chromosomes. Canadian Conference on Computer and Robot Vision (CRV). 2010.
20. Akila Subasinghe A, Samarabandu J, Rogan P, **Knoll J**. Development of an image processing algorithm for accurate extraction of the centerline from human metaphase chromosomes. International Conference on Image Processing (ICIP) sponsored by IEEE Signal Processing Society, 2010.
21. Caragea M, Sy J, **Parfitt JR**, **Driman DK**. "Tumour budding in stage IIA colorectal carcinoma: a new semi-quantitative method of assessment." Department of Pathology, University of Western Ontario, London, Canada; Department of Anatomical Pathology, Concord Hospital, Sydney, Australia. Canadian Association of Pathologists. Canada. 2011.
22. Caragea M, Smith PM, **Howlett C**, **Parfitt JR**, **Chakrabarti S**. "Progressing multicystic mesothelioma of the liver." Department of Pathology, University Hospital, University of Western Ontario, London, Ontario; Department of Pathology, Windsor Regional Hospital, Windsor, Ontario. Canadian Association of Pathologists. Canada. 2011.
23. Mosli M, **Parfitt JR**, Gregor JC. "Risk factors and sequelae of ischemic colitis (IC)." Division of Gastroenterology, Department of Medicine, University of Western Ontario, London, Ontario. Canadian Association of Gastroenterology (Canadian Digestive Diseases Week). Canada. 2010.
24. Anborgh PH, Mutrie JC, **Tuck AB**, Chambers AF. "Pre- and post-translational regulation of osteopontin in cancer." London Regional Cancer Program. Canada. 2011/06.
25. Siu VM, **Xu, J**. "Array-Based CGH Findings in Two Children with TAR Syndrome, one with and one without the common 1q21.1 deletion.." Abstract No. 283. ACMG Annual Clinical Genetics Meeting. Canada. 2011/03/16.
26. **Xu J**. "FISH Testing for HER2 in Breast Cancer: Brief Reviews of Guidelines, Controversy and Advancement." The 49th Annual Great Lakes Conference. Canada. 2011/05/19.

Abstracts Presented – International

1. Megyesi JF, Haji F, Patel Y, **Ang LC**. “Spinal Epidural Angiolipoma - A Literature Review.” Neuro-oncology, 12:29-29 Suppl. 4 NOV 2010. Advances in Inflammatory Bowel Diseases Crohns & Colitis Foundation National Clinical & Research Conference. United States. 2010/12/09.
2. Alturkustani M, **Ang LC**. “Glioneuronal tumour of the 4th ventricle associated with neurofibromatosis type 1.” Brain Pathology, 20: 56-56 Suppl. 1 SEP 2010. 17th International Congress of Neuropathology (ICN 2010). Austria. 2010/09/11.
3. **Darling MR**, McCord C, Jackson-Boeters L, Daley TD. Markers of potential malignancy in Chronic Hyperplastic Candidiasis. 88th General session and exhibition of the International Association for Dental Research. Barcelona, Spain. July 14-17, 2010
4. Fok TC, **Daley TD**, Lapointe HJ, Tuck AB, Chambers AF, Jackson-Boeters L, Darling MR. Osteopontin, HCAM /CD44 and Integrin $\alpha\beta 3$ in Salivary Gland Tumours. 89th General session and exhibition of the International Association for Dental Research. San Diego, California, USA. Mar 16-19, 2011.
5. Messenger DE, **Driman DK**, McLeod S, Riddell RH, Kirsch R. “Current practice patterns among pathologists in the assessment of venous invasion in colorectal cancer.” US and Canadian Academy of Pathology Meeting. US and Canadian Academy of Pathology. United States. 2011/03.
6. **Gabril M**, Youssef G. “Automated Image Analysis Of Microvascular Density In Clear Cell Renal Cell Carcinoma And Its Prognostic Utility.” USCAP meeting 2010. United States. 2010/07.
7. Chan S, Garcia F, Chin J, **Moussa M**, **Gabril M**. “Do Benign Glands at the Resection Margin Increase the Risk of Biochemical Failure Post Radical Prostatectomy?.” USCAP meeting 2011. United States. 2011/03.
8. **Gabril M**, Yousef G. “Automated Image Analysis of Endoglin and microvascular density Immunoreactivity in Clear Cell Renal Cell Carcinoma and Study Their Prognostic Significance.” USCAP meeting 2011. United States. 2011/03.
9. **Gabril M**, Metias S, Moussa B, **Moussa M**, Yousef G, “Risk of Prostatic carcinoma following a diagnosis of Atypical Small Acinar Proliferation: a multicenter retro-respective study.” USCAP meeting 2011. United States. 2011/03.
10. Gardon Rose J, **Gibson C**, Kushion ML, von Lubitz DKJE. Building the Together We Can Health Improvement Campaign in Central Michigan, Central Michigan University – Universities Allied for Essential Medicines (CMU-UAEM) Global and Local Health Disparities Conference, Mount Pleasant, MI, April 2-3, 2011.(Platform presentation)
11. Goubran M, Khan AR, Crukley C, Buchanan S, Cantor D, Santyr B, de Ribaupierre S, Mirsattari S, **Hammond R**, Parrent A, Peters TM. Robust registration of sparsely sectioned histology to ex-vivo MRI of temporal lobe resections. SPIE, Feb 2011

12. Valiyeva F, Jiang F, Elmaadawi A, Yee SP, **Moussa M**, Raptis L, Izawa J, Yang B, Greenberg NM, Wang F, Xuan JW. "Proto-oncogenic activity of a novel TRIM59 gene, characterized in mouse cancer models." 5th Garvan Signalling Symposium (ASBMB). Australia. 2010/10/18.
13. Gibson E, Crukley C, **Gomez JA, Moussa M**, Bauman G, Fenster A, Ward AD. "Tissue Block MRI For Slice Orientation - Independant Registration of Digital Histology Images to Ex Vivo MRI of the Prostate." United States. 2011/03/30.
14. Gibson E, Crukley C, McKenzie C, **Gomez JA, Moussa M**, Bauman G, Fenster A, Ward AD. "Image-guided prostate sectioning supporting registration of graded cancerous foci from digital histopathology images to in vivo MRI: an interactive 3D visualization tool. SPIE medical imaging. Orlando, USA. February 2011." United States. 2011/02/28.
15. Khatamianfar V, Valiyeva F, Izawa J, Gleave M, Rennie P, **Moussa M**, Xuan JW. "TRIM59, a novel proto-oncogene, as a biomarker for multiple human cancers detecting early tumorigenesis 5th Garvan Signalling Symposium." Australia. 2010/10/18.
16. Patel V, Chande N, **Driman DK**, Gregor JC, **Parfitt JR**, Ponich T, Schwarz UI, Dresser GK, Kim RB. "The expression of drug efflux transporters in celiac disease." American Association of Gastroenterology (Digestive Disease Week). United States. 2010.
17. Sy K, Al-Haddad S, **Parfitt JR**, Streutker CJ. "Inflammatory pseudotumour of the esophagus: a report of 5 cases." United States and Canadian Association of Pathologists. United States. 2010.
18. **Xu J**, Hamm C, Allevato P. "A Rare Case having t(8;22) and t(14;18) Double Hit with up to 3 Copies of t(8;22) and Morphologic and Immunophenotypic Features of Large B Cell Lymphoma of Possible Follicular Origin.." Abstract No. 435. The American Society of Human Genetics 60th Annual Meeting. United States. 2010/11/02.
19. Zhang L, Chen D, Rieder MJ, **Bend JR**. "Attenuation of oxidative and nitrosative stress by pure constituents of Traditional Chinese remedies." 9th Meeting of Consortium for Globalization of Chinese Medicine (CGCM), Hong Kong. 2010/08/23.
20. Siu VM, **Xu J**. "A De Novo 1.3Mb Deletion in 17p21.31 Associated with Partial Agenesis of Corpus Callosum and Pervasive Development Disorder." Abstract No. 19. First Annual ISCA Consortium Conference. United States. 2011/01/31.



8.D – Research Funding

External Funding

1. Richmond C, **Bend JR** (Co-applicant). CIHR community based grant. “First Nations Perceptions of the Health Impact of Living Near a Solid Waste Facility. Total Funding \$25,000. From 2011/06 to 2012/05.
2. Ferguson S, **Bend JR** (Co-applicant). Ontario Ministry of Research & Innovation research resource grant. “London Regional Cell and in Vitro Imaging Facility.” Total Funding \$469,400. From 2007/04 to 2012/03.
3. Trick C, **Bend JR** (Co-applicant). International Development Research Centre – Environment & Natural Resources Management. “Pending Crisis at Lake Naivasha, Kenya: diagnosis and treatment of threats to ecosystem health during climate change. Total Funding: \$600,000. 2008/05 to 2012/04.
4. **Bend JR (PI)**. CIHR Operating Grant. “Modulation of Gene Expression and Protein Structure/Activity by Bilirubin.” Total Funding \$685,185. 2003/10 to 2011/03.
5. Rieder MJ (PI), **Bend JR (PI)**. Ontario Ministry of Research and Innovation: International Strategic Opportunities Program (ISOP). “Improving Drug Safety by Complementary Use of Traditional Chinese Medicine.” Total Funding: \$150,000. 2008/03 to 2011/04
6. **Chakrabarti S** (Canada); Li X (China). CIHR China-Canada Joint Health Research Initiative. “Preventative Effects and the Mechanism of action of a Novel Mutant of Fibroblast Growth Factor on Diabetic Cardiomyopathy.” Total Funding: \$146,100. 2011/01 to 2013/12

7. **Chakrabarti S (PI)**. Canadian Diabetes Association. “Pathogenesis of diabetic retinopathy”. Total Funding: \$275,000. 2010/07 to 2013/06
8. **Chakrabarti S (PI)**. OICR. Total Funding: \$250,000. 2010/07 to 2011/07
9. **Chakrabarti S (PI)**. Actelion Pharmaceuticals Inc. “Effect of Macitentan treatment on diabetic nephropathy”. Total Funding: \$30,000. 2010 to 2012
10. **Chakrabarti S (PI)**. FTA Ontario Research Fund. “Preventative Effects of Ginseng”. Total Funding: \$196,000. 2008/08 to 2013/03
11. **Chakrabarti S (PI)**. Heart and Stroke Foundation of Ontario. Total Funding: \$151,100. 2008/07 to 2011/06
12. **Chakrabarti S (PI)**. CIHR. “Oncofetal fibronectin in diabetic heart disease”. Total Funding: \$559,855. 2006/07 to 2011/06
13. **Gabril MY** (Site Investigator). Canadian Institutes of Health Research (CIHR). “Investigating the factors affecting the metastatic potential of the renal tumors.” Total Funding \$321,000. 2009/08 to 2010/08
14. Baumann G (PI), **Gómez JA (Co-I)**, **Moussa M (Co-I)**. CIHR Team in Image Guided Prostate Cancer Management. “Histopathologic Validation of Pre-operative Prostate Cancer Imaging”. Total Funding: \$4,642,805. 2008/04 to 2013/03
15. **Hammond RR**, Spence D (PI). Canadian Atherosclerosis Imaging Network (CAIN), funded by CIHR and the Heart & Stroke Foundation of Canada. Pathology Image Analysis Core. Total Funding: \$25,000. 2010 to 2012.
16. **John MA**, (Site investigator) Loeb M (PI). Ontario Ministry of Health & Long Term Care. “A randomized control trial of surgical masks vs N95 respirators to prevent influenza in health care workers.” Total Funding: \$ 250,000. 2009 to present
17. **John MA**. Ontario Ministry of Health & Long Term Care. “Evaluation of a Pilot Test of the Provincial Hand Hygiene Program for Hospitals.” Total Funding: \$ 100,000. 2009 to 2010
18. **John MA**. “Canadian Nosocomial Infection Surveillance Program (CNISP)”. Total Funding: \$7,000 per year to provide hospital profiles/quarterly reports.
19. **John MA**. “A Survey of Health Care Professionals on the use of Personal Protective Equipment during the Pandemic H1N1 Influenza wave from September to December 2009.” Total Funding: \$7,800. 2010
20. **John MA** (Site Investigator). “Development of a National Surveillance System for Central Venous Catheter Bloodstream Infections (CNISP).” Total Funding: \$3,000 per year 2007 to present

21. **John MA** (Site Investigator). “National Surveillance of Methicillin Resistant Staphylococcus aureus in Candian Acute Care Hospitals (CNISP)”. Total Funding: \$ 7,500 per year 2000 to present
22. **John MA** (Site Investigator). “National Surveillance of Vancomycin Resistant Enterococcus faecalis and faecium in Candian Acute Care Hospitals (CNISP).” Total funding: \$ 2,500 per year. 2000 to present
23. **John MA** (Site Investigator). “Surveillance for Clostridium difficile associated diarrhea (CDAD) within acute care institutions (CNISP).” Total Funding: \$3,000/year 2008 to present
24. **Khan ZA**. Canadian Institutes of Health Research. “Cellular and Molecular Basis of Infantile Hemangioma Pathogenesis”. Total Funding: \$219,813. 2009/10 to 2012/09
25. **Khan ZA**. Canadian Diabetes Association. “Vascular Stem Cells in Diabetic Complications”. Total Funding: \$189,000. 2009/07 to 2012/06
26. **Khan ZA**. Heart & Stroke Foundation of Canada, New Investigator Award. Total Funding: \$300,000. 2010/07 to 2015/06.
27. **Lannigan R**, McBean G, Snidvongs A. International Development Research Centre (IDRC), Canadian Institutes of Health Research, the Natural Sciences and Engineering Research Council, and the Social Sciences and Humanities Research Council. “International Research Initiative on Adaptation to Climate Change (IRIACC) Coastal Cities at Risk (CCaR): Building Adaptive Capacity for Managing Climate Change in Coastal Megacities.” Total Funding: \$1,250,000. 2011/03 to 2016/06
28. Bauch C (PI), **McLachlin CM (Co-I)**. Canadian Institutes of Health Research (CIHR), Infection & Immunity. “Cervical Cancer Screening in the Era of HPV Vaccination: using mathematical and economic models to guide screening policy.” Total Funding: \$228,000. 2008/07 to 2011/12.
29. **Moussa M (Collaborator)**, Ward AD(Co-PI). This project was (partially) funded through the Cancer Imaging Network of Ontario (CINO) supported by Cancer Care Ontario with funds from the Ministry of Health and Long-Term Care”.. ““Evaluation of 18F-choline PET/CT imaging for prostate biopsy guidance using digital pathology-based 3D prostate cancer maps and 3D TRUS-guided targeted biopsy”. Total Funding: \$70,000. 2011/05 to 2013/05
30. **Xuan J (PI), Moussa M (Co-I)**. Ontario Institute for Cancer Research. “Molecular diagnosis and therapy of prostate cancer by UTMD (ultrasound targeted microbubbles destruction) technology in genetically engineered mouse models.” Total Funding: \$542,449. 2008/07 to 2011/06.
31. **Shkrum MJ (PI)**. Transport Canada. “MOVES: Motor Vehicle Collision and Motor Vehicle and Vehicle Equipment Defect Investigations.” Total Funding: \$778,750. 2010/10 to 2013/03.
32. **Tuck AB**. Canadian Breast Cancer Research Alliance. “Modeling of critical steps in mammary tumor progression in 3D culture and in vivo.” Total Funding: \$432,252. 2005/01 to 2010/12

33. **Tuck AB**, Chambers A (PI). Canadian Institutes of Health Research. “Steps in metastasis: Identifying therapeutic targets.”. Total Funding: \$134,825. 2005/01 to 2010/12
34. Rakovitch E, **Tuck AB** et al (co-applicants). Canadian Breast Cancer Research Alliance. “Lobular Carcinoma In Situ: A Population-based Analysis”. Total Funding: \$585,545. 2006 to 2010
35. Rakovitch E, **Tuck AB** (Co-I). Canadian Breast Cancer Research Alliance. “Ductal carcinoma in situ: A population-based analysis.” Total Funding: \$254,875. 2007/01 to 2012/12
36. Koropatnick and 10 others, **Tuck AB** (Collaborator). Canadian Institutes of Health Research. “London strategic training initiative in cancer research and technology transfer”. Total Funding: \$325,000. 2009 to 2015
37. Turley E, **Tuck AB** et al (co-applicants). Canadian Breast Cancer Foundation - Ontario Region. “The role of RHAMM/HMMR in breast cancer susceptibility and progression”. Total Funding: \$144,646. 2011 to 2014
38. Chambers AF, **Tuck AB** et al. Breast Cancer Society of Canada. “Studies of Osteopontin as a Biomarker in Breast Cancer Clinical Trials”. Total Funding: \$52,500. 2010 to 2011
39. Winquist E, **Tuck AB**. Ontario Institute for Cancer Research. “OICR Translational Research Team Award”. Total Funding: \$337,862. 2010 to 2013
40. **Xu, J**. Canada Foundation for Innovation – Infrastructure Operating Fund. Total Funding: \$16,395. 2010.

Internal Grant Funding

1. **Ang LC**. Pathology Internal Funds for Academic Development. “Cytogenetic Study for Aggressive and Recurrent Meningiomas, using FISH probes for 1p and 14q”. Total Funding: \$5,000. 2009/01 to 2010/12
2. **Ang LC**. Pathology Internal Funds. “Neuropathology Residency Program - teaching and research development”. Total Funding: \$3,000. 2010/07 to 2011/06.
3. **Chakrabarti S (PI)**. Pathology Internal Funds for Academic Development. “MicroRNA alteration in the squamous cell carcinoma of pharynx.” Total Funding: \$5,000. 2009/03 to 2011/01
4. **Driman DK**. Pathology Internal Funds for Academic Development. “LHSC Experience with Hepatic Resection for Metastatic Cancer (Chemotherapy Effect in Hepatic Resections for Metastatic Colorectal Adenocarcinoma)”. Total Funding: \$3,041. 2011 to present.

5. **Driman DK.** Pathology Internal Funds for Academic Development. “Tumor budding and perineural invasion are independent and reproducible prognostic factors in colorectal carcinoma.” Total Funding: \$5,000. 2010/01 to 2011/12
6. **Driman DK.** Pathology Internal Funds for Academic Development. “Effect of GEWF solution on survival in colon cancer”. Total Funding: \$5,000. 2010 to 2012.
7. **Driman, DK,** Caragea M, Sy J, Parfitt J. Pathology Internal Funds for Academic Development “Tumour budding in stage IIA colorectal carcinoma: a new semi-quantitative method of assessment”. Total Funding: \$5,000. 2010 to 2012.
8. **Driman DK.** 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.” Total Funding: \$5,000. 2009/03 to 2011/02
9. **Garcia B.** LHSC Multiple Organ Transplant Program. Total Funding: \$70,000. 2010/08 to 2011/09
10. **Hammond RR.** Pathology Internal Funds for Academic Development. “High field MRI/Neuropathology correlative studies”. Total Funding: 5000. 2009/03 to 2011/07
11. **Howlett C (PI).** Pathology Internal Funds for Academic Development. “Evaluation of the value of an elastic tissue stain in identification of large vessel invasion in lung carcinoma”. Total Funding: \$2,000. 2010/04 to 2012/03
12. **Howlett C (PI).** Pathology Internal Funds for Academic Development. “Investigation of plasma cell proliferations in association with metastatic carcinoma to the bone marrow.” Total Funding \$3,000. 2010/12 to 2012/11.
13. **Hussain Z,** McGavin M (PI). Western Academic Development Fund. “Population dynamics of Staphylococcus aureus carriage in hemodialysis patients and association with adverse infections rates.” Total Funding \$20,000. 2010 to 2012.
14. **Khan ZA.** Lawson Health Research Fund, IRF-005-09. “Mechanisms of Hemangioma Stem Cell Plasticity: Student funding for A. Kleinman”. Total Funding: \$9,000. 2009/07 to 2011/06
15. **Moussa, M.** Department of Pathology Internal Funds for Academic Development. ““Localization of PLA2R antibody in membranous nephropathy and clinical correlation”. Total Funding: \$5,000. 2010/07 to 2012/06
16. **Ramsay DA (PI),** Megyesi J (Co-Director). London Brain Tumour Research Fund Foundation. ““Canadian Brain Tumour Tissue Bank”, Ongoing Annual Maintenance Grant 1998 - present (\$80,000 per annum)”. Total Funding: \$960,000. 1998 to 2011
17. **Rizkalla K.** Schulich School of Medicine & Dentistry. Undergraduate Medical Education Summer Student Project. Total Funding: \$4,251. Spring 2011.

18. **Rizkalla K.** Pathology Internal Funds for Academic Development. “Learning module for blood: a hemopathology / haemtology resource.” Total Funding: \$3,000. 2010/01 to 2011/12
19. Chambers A, **Tuck AB.** London Regional Cancer Program Small Grants for Cancer Research and Training. “Supplement to a 5-year CIHR award (MOP42511).” Total Funding: \$50,000. 2009/01 to 2010/12
20. **Tuck AB.** London Regional Cancer Program Small Grants for Cancer Research and Training. “Pre-signaling targets to block malignancy-promoting effects of osteopontin on breast cancer.” Total Funding: \$49,884. 2009/01 to 2010/12
21. **Wehrli BW, Weir MM.** Pathology Internal Funds for Academic Development. “Immunomarker Validation Study for Cytology, The University of Western Ontario”. Total Funding: \$5,000. 2010/01 to 2012/01



SECTION 9: Awards, Honours & Distinctions

2010-11

Fellow of the Canadian Academy of Health Sciences, Dr. Jack Bend

Member, Council of Canadian Academies Expert Panel on the Integrated Testing of Pesticides, Dr. Jack Bend.

Marion Spencer Fay Award Nominee, Drexel University College of Medicine, Dr. Bertha Garcia

Dean's Award of Excellence for Staff – Linda Jackson-Boeter, Department of Pathology Technician

Best Skin Week Professor Award, Schulich School of Medicine & Dentistry, Dr. Mariamma Joseph

Heart & Stroke Foundation of Canada, New Investigator Award, Dr. Zia Khan

Prostate National Cancer Pathology & Staging Multidisciplinary Expert Panel Member, Dr. Madeleine Moussa

Western Humanitarian Award (Team), Drs. Charles Trick, Jack Bend, Irena Creed and Regna Darnell.

Fellow of the Royal Society of Medicine, Dr. David White

2009-10

2010 Canadian Liver Foundation/Canadian Association for the Study of the Liver Gold Medal - Dr. Paul Adams (Dept. of Medicine cross appointee)

CIHR New Investigator Award - Dr. Tianqing Peng (Dept. of Medicine cross appointee)

Dean's Award of Excellence for Staff - Tracey Koning, Graduate Program Assistant

The USC Teaching Honour Roll Award of Excellence – Dr. Rob Hammond

The USC Teaching Honour Roll Award of Excellence – Dr. Kamilia Rizkalla

The USC Teaching Honour Roll Award of Excellence – Dr. Mathieu Castonguay

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

The USC Teaching Honour Roll Award of Excellence – Dr. Aaron Haig

The USC Teaching Honour Roll Award of Excellence – Dr. David Driman

The USC Teaching Honour Roll Award of Excellence – Dr. Candace Gibson

The USC Teaching Honour Roll Award of Excellence – Dr. Madeleine Moussa

The USC Teaching Honour Roll Award of Excellence – Dr. Kamillia Rizkalla

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

Dean's Award of Excellence for Staff – Cheryl Campbell

Department of Pathology Awards

Faculty Awards

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

- 2010 Jose Gomez
- 2009 Michele Weir
- 2008 David Driman
- 2007 Bret Wehrli
- 2006 Mariamma Joseph

Annual Pathology Research Day Awards

Chair's Award for Best Presentation by a Resident

- 2011 Hector Li
- 2010 Susanne Chan
- 2009 Mathieu Castonguay
- 2008 Chad Luetke
- 2007 Christopher Howlett

Second Place Award for Best Presentation by a Resident

- 2011 Mara Caragea
- 2010 Hector Li
- 2009 Hector Li
- 2008 Bassem Moussa
- 2007 Bassem Moussa

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

- 2011 Andrew Pepper (supervisor David White)
- 2010 Andrew Pepper (supervisor David White)
- 2009 Andrew Pepper (supervisor David White)
- 2008 Katie Moisse (supervisor Michael Strong)
- 2007 Katie Moisse (supervisor Michael Strong)

Second Place Award for Graduate Students

- 2011 Jamie Belo (supervisor Rennian Wang)
- 2010 Xusheng Zhang (supervisor Weiping Min)
- 2009 Yuofeng Zuo (supervisor Chandan Chakraborty)
- 2008 Yuofeng Zuo (supervisor Chandan Chakraborty)
- 2007 Hao Wang (supervisor Bertha Garcia)

Best Poster Presentation by a Graduate Student

- 2011 Jessica Dubrick (supervisor Rennian Wang)
- 2010 Manpreet Singh (supervisor Tianqing Peng)
- 2009 Arthur Lau (supervisor Zhuxu Zhang)
- 2008 Xusheng Zhang (supervisor Weiping Min)
- 2007 Lesley Souter (supervisors Ann Chambers & Alan Tuck)

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

- 2011 Emily Keats (PhD), Rokhsana Mortuza (PhD), Wahab Khan (PhD)
- 2010 Matthew Riopel (MSc), and Kara McArthur (MSc)
- 2009 Kara McArthur (MSc)
- 2008 Mansa Krishnamurthy (MSc)
- 2007 Nelly Hashem (MSc) and Abudi Awaysheh (MSc)

Dr. Cameron Wallace Graduate Student Award in Pathology

- 2011 Yuexiu Wu (PhD)
- 2010 Andrew Pepper (PhD)
- 2009 Xusheng Zhang (MSc)
- 2008 Mansa Krishnamurthy (MSc)
- 2007 Katie Moisse (PhD) and Yufeng Zuo (PhD)

Undergraduate Awards

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

- 2011 Deelan Patel
- 2010 Peter Lynch
- 2009 Brandon Brillon
- 2008 Kun (Eric) Huh
- 2007 Michelle Hanna and Elizabeth Roach

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

- 2011 Laura Bowie
- 2010 Kun Huh (Eric)
- 2009 Julie Koppes
- 2008 Amanda Vieira
- 2007 Heidi DeBoer

PC Shah Scholarship Award

- 2011 Rinu Pazhekattu
- 2010 Eric Bol
- 2009 Elizabeth Roach
- 2008 Nick Sutherland

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

- 2011 Deelan Patel
- 2010 James Clem

Acknowledgements

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