Department of Pathology
ANNUAL REPORT
2010

London Health Sciences Centre

St Joseph's Health Care London

The University of Western Ontario
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The Department of Pathology

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

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

Vision

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

Mission

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

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

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

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

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

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

Team Work
We believe in a team-based problem identification and problem solving methodology.
We believe in interdisciplinary networking.

Innovation
We are flexible and adaptable in order to meet the changing needs of society.
We strongly believe in continuous quality improvement to enhance clinical performance outcomes.

Leadership
We strongly encourage members to take leadership roles in education, research and management.
We support the leaders who guide our mission.

“We must become the change we want to see”
Mahatma Gandhi (1869-1948)
It is with mixed feelings that I write this, my last message as your Chair. While reflecting on our many achievements of this past year, I cannot help but also remember where we were in May 2000 when I became Acting Chair of the Department. We have certainly had an amazing journey and the best part of it all is that there is still a lot more to come. I am comforted by the fact that I hope to be around to see my successor take us to an even higher level and maybe an even more exciting destination.

We are indeed a very special department: we are both basic and clinical. We have an extraordinary scope in teaching; our clinical operation is one of the largest and most complex in Canada; and the uniqueness of our research in its true translational and collaborative approach.

This past year has seen us make major inroads in our strategic directions and plans. It has seen us continue to grow our graduate program exponentially while significantly expanding our presence in three major educational programs: undergraduate medicine, undergraduate dentistry and undergraduate medical science. Currently, five of 13 pre-clinical medicine courses are either chaired or co-chaired by a member of the Department of Pathology. We are leaders of three large courses in the last year of medicine, four multi-year courses in dentistry and five courses in the Bachelor of Medical Sciences (with two additional ones being launched in the fall of 2011). We have been very engaged in the curricular review of dentistry while continuing to expand our offerings in the highly competitive Honours Specialization in the Bachelor of Medical Sciences Program.

Of interest, we have continued to engage in inter-professional education initiatives. We teach very successful courses for nursing students at both UWO and Fanshawe College and in the spring of 2011 we will launch an inter-professional course for Radiology MRI technologists at Fanshawe College in collaboration with the Department of Radiology.

Our educators are indeed first class. They are recognized by their students and peers. Furthermore, and aligning ourselves with the UWO and SSMD strategic initiatives, we export education across the world, mostly as a humanitarian effort. Our educators are making a difference in the curriculum development, faculty development and evaluation in undergraduate and postgraduate medical programs in South America, Africa, the Middle East and Asia.

Our Graduate Program for Pathologists’ Assistants became the first accredited program of this nature in Canada and one of nine in North America. The Ecosystem Health and Environmental Pathology stream of our graduate program is actively involved in research with partners in Africa. We have currently two student candidates for the newly launched dual PhD program with University of West China. And finally, two members of our department have co-led the launching
of a professional inter-faculty Masters Degree of Public Health at UWO, the first students being expected to enroll by the fall of 2012.

We continue to be competitive in research even during these difficult times for research grant funding. One of our faculty members is an active member of the UWO World Discoveries Fund initiative for both China and India and our department houses a number of core research facilities. We continue to have a strong publication record.

Our clinical hospital laboratories continue to thrive. We have residency programs bursting at the seams with non-stop successful matching for all laboratory medicine positions and 100% success rate at the Royal College of Physicians and Surgeons of Canada for 20 straight years. We are extremely proud to be “best in show” for clinical quality initiatives in pathology, including tele-pathology and quality monitoring in professional interpretation. We lead Ontario in pathology Cancer Care Ontario performance indicators and are leaders in workload measurement and compensation strategies. We have one of the most successful Regional Forensic Pathology Units in Ontario and Canada.

Finally, I believe that we, as a department, represent what is best in Canada: a multicultural group without boundaries where there is respect for each other and each other’s beliefs. We support and care for each other and truly work as a team. We role model and reward professionalism. We are socially responsible and good citizens of our community. For example, during the 2010 Christmas food drive, our department was able to collect and donate 3,831 items (2,800 lbs) to the London Food Bank within a two week period. We are indeed fortunate. I believe that I’ve had the perfect job. I cannot help but feel extremely fortunate that you have allowed me to share with you all this and more.

I see a bright future for us. We have what it takes to take the next steps under our new leadership alongside Dean Strong and our new hospital leaders. I look forward to what is to come.

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

Chair
Dr. Bertha Garcia

Deputy Chair
Dr. Subrata Chakrabarti

Research and Graduate Education
Graduate Program Chair
Dr. Subrata Chakrabarti

Research Based Programs

Course Based P.A. Program

Postgraduate Education
Director of Research
Dr. Subrata Chakrabarti

Anatomical & General Pathology
Dr. Jessica Shepherd

Neuropathology
Dr. Lee Cyn Ang

Medical Microbiology
Dr. Zafar Hussain

Undergraduate Education
Director of Education
Dr. Bertha Garcia

Undergraduate Medical Education

Undergraduate Dental Education

Undergraduate Medical Sciences
Dr. Candace Gibson

Please see Section 5 for Organizational Chart for Pathology & Lab Medicine at LHSC
Department of Pathology Quick Facts
(at July 1, 2010)

FT Clinical Academics: 30
FT Basic Scientists: 7
Emeriti: 11
Cross Appointees: 13
Institute Scientists: 6
Adjunct/MD: 17
Limited-Duty Appointees: 6

UWO Staff (FT & PT): 7

Postdoctoral Fellows and Associates, and Visiting Scientists: 2

Pathology Residents: 14
Pathology Graduate Students: 36
BMSc Pathology / Toxicology: 5

BMSC PATH/TOX: 5
UNDERGRADUATE MEDICINE
(Meds I, Meds II, Meds IV): 472
CLINICAL CLERKSHIP / VISITING ELECTIVES/
MEDS I OBSERVERSHIPS: 23
OTHER ELECTIVES: 4
POSTGRAD RESIDENT ELECTIVES: 48
UNDERGRADUATE DENTISTRY: 56
BScN / NURSING: 288
UNDERGRAD MEDICAL & HEALTH SCIENCES: 311

Faculty Primary Appointment in Pathology
(at July 1, 2010)

Professor and Chair
Bertha Garcia

Professors Emeriti
Colin Anderson
Robert A. Goyer
Mary Ellen Kirk
George Cherian
Collette M. Giraudon
D. Ian Turnbull
John. V. Frei
M. Daria Haust
George Wysocki
Joe Gilbert
John Kaufmann

Professors
Lee Cyn Ang
Rob Hammond
Meg McLachlin
Jack Bend
Zafar Hussain
Madeleine Moussa
Cross, Adjunct and Limited Duties Appointments

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

**Associate Professors**
- Valter Feyles (Ob/Gyn)
- Weiping Min (Surgery/Lawson)***
- Cindy Hutnick (Ophthalmology)
- Hao Wang (Surgery/Lawson)***

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

**South West Ontario Medical Education Network (SWOMEN) & Rural Region Clinical Adjunct Professors**
- Pat Allevato (Windsor Regional Hospital)
- Dong Liu (Woodstock General Hospital)
- Sajid Shukoor (Hotel Dieu Grace, Windsor)
- Mohammad Alomari (Windsor Regional Hospital)
- Rosemary Lubynski (Bluewater Health)
- David Shum (Windsor Regional Hospital)
- Saad Awad (Chatham Kent)
- Marven Oxley (Windsor Regional Hospital)
- Latif Tadross (Guelph Regional Hospital)
- Ram Gidwani (Bluewater Health)
- Bassem Moussa (Chatham Kent Health Network)
- Abdelghani Tbakh (Windsor Regional Hospital)
- Omar Hakim (Windsor Regional Hospital)
- Brian Rudrick (Grey Bruce, Owen Sound)
- Fasahat Wasty (St. Thomas Elgin)
- Michael Helde (Hotel Dieu Grace, Windsor)
- P.C. Shah (Strathroy Middlesex Hospital)

**Limited Duties Appointees**
- Peter Ainsworth (UWO, Pediatrics)
- Penny Costello Adjunct Research Professor
- Victor Prabhakaran (UWO, Biochemistry)
- Edith Arany (Medicine) Assistant Professor
- Tyrrel de Langley (ACVS) Assistant Professor
- Xiufen Zheng (Surgery) Adjunct Research Professor
UWO Administrative 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.

Tracey Koning (Graduate Program Assistant), Lee Welsby-Benko (Receptionist / Administrative Assistant), Susan Stewart (Residency Program Assistant), Mair Hughes (Administrative Officer), Linda Jackson-Boeters (Departmental Technician), Kathilyn Onn (Media Specialist), Cheryl Campbell (Undergraduate Program Assistant), Kris Milne on leave – (Media Specialist)

Pathology Research Day Tuesday April 27, 2010
Farewells

In April, 2010 we said farewell to Gail Heslinga (UWO Pathology office) who retired from the department. Gail joined the department administrative staff in 2006 as a secretary and in 2008 took on the additional role of residency program assistant.

In Memoriam

Dr. Colin Anderson, an Emeritus Professor in the Department of Pathology, passed away at the age of 78, on May 5, 2010 in Mar del Plata, Argentina. Dr. Anderson joined the University of Western Ontario, and University Hospital Departments of Pathology in June of 1973. He obtained his medical degree in 1963 at the National University of Buenos Aires and his postgraduate pathology education at the Royal Infirmary in Glasgow, Scotland where he became a Member of the Royal College of Pathologists (UK) in 1968. Dr. Anderson was a Fellow of the College of American Pathologists (1977), the College of Physicians & Surgeons of Canada (AP, 1978), and the Royal College of Pathologists (UK, 1980).

At the UWO Department of Pathology, Dr. Anderson founded the Hard Tissue Research Laboratory, where his team performed quantitative analysis of bone from various experimental animal models and acted as a reference centre for human diagnostic bone biopsies from across Canada. His research interests on the basic multicellular unit of bone remodeling activity applying quantitative computerized histomorphometry and quantitative computerized microdensity to bone was leading edge in the world and paved the way to a better understanding of the pathogenesis of osteoporosis. Dr. Anderson held many external grants including MRC, and the Ontario Ministry of Health.

Dr. Anderson was recognized as a passionate and innovative educator. He taught and coordinated courses in general and systemic pathology for many years for Undergraduate Sciences, Medical and Dental students. He was much loved by his students for his enthusiasm, sense of humour and sense of fairness. He introduced Problem Based Learning to the Pathology Curriculum at UWO, one of the first in the world. He also participated in the Graduate Program in Pathology and supervised many MSc and PhD students. During his tenure he was the Director of the Residency Training Programs in Anatomical and Clinical (General) Pathology.

Dr. Anderson served on numerous hospital and university committees and served as Director of Autopsy Pathology and Surgical Pathology.

On July 1, 1996 Dr. Anderson retired and was conferred the rank of Emeritus Professor. Upon his retirement he moved back to his home in Argentina and dedicated his time to writing an historical account of German espionage in the Argentinian sea between the years of 1937 and 1945, as well as enjoying life with his family.
The following are some of the highlights from the London Laboratory Services Group (LLSG) for the past twelve months.

**LTC (Lab Test Centre – out-patient specimen collection)**
Three LTCs at UH, VH and SSH were rolled into the laboratory’s portfolio joining the LTCs from SJHC and LRCP. Now all the LTCs are under laboratory management which will allow greater standardization of processes and, eventually, better utilization of staff among sites.

**Chemistry Menus**
The chemistry group undertook a comprehensive review of in-house and referred-out menus. As a result several tests were discontinued, a couple of new tests were added and, most significantly, new sources for referred-out testing were found materially reducing costs and turnaround-times, and repatriating testing from the US to Canada.

**Transplant Laboratory Accreditation**
Last year the transplant laboratory underwent its biennial ASHI (American Society for Histocompatibility and Immunogenetics) on-site inspection. The laboratory passed with flying colours with no observed deficiencies.

**Virology PCR System**
An automated PCR system was introduced replacing virus cultures for identifying respiratory viruses thereby decreasing turnaround-times to one day from one week and reducing our dependence on the Public Health Laboratory. Positive responses were received from the pediatric service.

**Electronic Order Entry for Out-patient Clinics**
The Women’s Health Clinic at VH was the first out-patient clinic to go live with electronic order entry. Plans are underway to bring all clinics on-line by the end of this year. Electronic order entry brings us one step closer to a paperless system and has many benefits such as improved patient safety, faster turnaround-times and reduced staffing levels as a result of eliminating an unnecessary transcription step.

**North Tower at VH**
Much effort has been expended over the last year in preparation for the moves to the new North Tower. Molecular diagnostics, molecular pathology, cytogenetics, virology, microbiology, and special chemistries – toxicology, endocrinology, immunology and trace elements – are being brought together on the 10th floor in December 2010. Not only will the labs have better facilities but they will be able to take advantage of shared equipment, common processes and combined expertise to enhance services.
The Pathology Laboratories at London Health Sciences Centre include the following facilities:

- Anatomical Pathology
- Ancillary Pathology (which includes Electron Microscopy)
- Immunopathology and Neuropathology
- Autopsy Services
- Cytogenetics
- Cytology (including the Reese Laboratory)
- Grossing Room
- Molecular Biology
- Molecular Pathology
- Molecular Genetics
- Specimen Receiving Area
- Transplant Immunology
- Pathology Clerical Support Group.

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 Pathologists’ Assistants program in Canada, in which the teaching opportunities have been fully embraced by our technical staff.

We take an active approach with research programs, in collaboration with both hospital and government funded sources. Our laboratories supply technical support and expertise to outlying regional facilities.
## Pathology Laboratories
### July 2009 - June 2010 statistics

<table>
<thead>
<tr>
<th>Staff Numbers</th>
<th>Clerical Support</th>
<th>Coordinators / Team Leaders</th>
<th>Lab Assistants</th>
<th>Pathologist’s Assistants</th>
<th>Research Associates &amp; Assistants</th>
<th>Technologists (including senior techs)</th>
<th>Scientists</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>19</td>
<td>4</td>
<td>11 / 4</td>
<td>8</td>
<td>4</td>
<td>75 / 5</td>
<td>1</td>
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</table>

### Approximate Statistical Averages

#### Histopathology

<table>
<thead>
<tr>
<th>Autopsy #</th>
<th>Coroners cases</th>
<th>Surgical Cases</th>
<th>Intra-Operative Consultation Reports</th>
<th>Slide Counts</th>
<th>Block Counts</th>
<th>Rapid Processing</th>
<th>Cytology</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>159</td>
<td>311</td>
<td>46,702</td>
<td>1,398</td>
<td>439,783</td>
<td>197,802</td>
<td>424</td>
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</table>

#### Molecular/Genetics

<table>
<thead>
<tr>
<th>Initial Handling &amp; Report</th>
<th>Sign-Off</th>
<th>Molecular Biology</th>
<th>Molecular Pathology</th>
<th>Biochemical Genetics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Abnormal Case</td>
<td>Complex Case</td>
<td>Normal Case</td>
<td>Oncology Case</td>
</tr>
<tr>
<td>3,584</td>
<td>819</td>
<td>221</td>
<td>1,898</td>
<td>1,686</td>
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<td></td>
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</tr>
</tbody>
</table>

#### Transplant

<table>
<thead>
<tr>
<th>Tests</th>
<th>8,354</th>
</tr>
</thead>
</table>
The division of Surgical Pathology is lead by Dr. Meg McLachlin who also acts as the Deputy Chief of Pathology. The Department consists of 27 surgical pathologists, including our 3 neuropathologists. As well there are 2 oral pathologists that are affiliated through the University Department. For the first time in many years the Department is fully staffed with no pathologist vacancies. A new position, partially funded through the MOHLTC/OAM agreement for new laboratory medicine positions was filled in January, 2010. The human resources plan for Department includes the addition of 3 more surgical pathologists.

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

The Department has focused considerable effort in reviewing and enhancing our quality initiatives. Dr. David Driman was named the Regional Pathology Lead and will be overseeing ongoing projects relating to cancer diagnosis and synoptic reporting. Under the leadership of Dr. Helen Ettler, the committee focusing on quality in interpretive pathology has been reviewing and standardizing our procedures in order to optimize diagnostic quality. Our quality procedures for immunopathology are in line with national initiatives and we serve as a regional resource to our community partners.

The division of Surgical Pathology has several challenges and opportunities to meet in the coming years. The increasing complexity of surgical pathology material and the greater expectations for additional testing will require a measured approach to the inclusion of molecular techniques. Our Department already has sufficient expertise; however providing resources for new testing remains a challenge. Additional challenges will include regional initiatives, increasing workload and expanding subspecialty expertise.
Report from the Medical Leader of Autopsy Service
Director Of Southwestern and the Ontario Regional Forensic Pathology Unit,
Dr. M. Shkrum

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

In 2009, there were 533 autopsies done at UH. Of these, 367 were coroners’ cases. Outside referrals were 110 (30%) of the medicolegal postmortems. Based on 2008 statistics, 11 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.

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

The division of cytology provides an important diagnostic service within the Department of Pathology. There are nine full time cytotechnologists, two full time technicians, one coordinator, and 12 pathologists who contribute to teaching, education, research and quality assurance activities in addition to a high volume service commitment (28,000 samples per year) which includes regional expert consultation work.

Over the past academic year, the staff has participated in teaching of:
1. two cytotechnology students from the Michener Institute of Health who successfully passed their exams;
2. several residents in the Anatomical Pathology program during their three month cytology rotations; and
3. medical students in their 2nd year Reproduction course and 4th year Pathology course. Several of our cytotechnologists are Clinical Educators with the Michener Institute of Health Sciences.

Research accomplishments: there were two posters (one by a pathology resident and one by a cytotechnologist) at the Canadian Association of Pathology meeting in Halifax. Both posters won Hugh Curry Awards for best poster by a resident and by a cytotechnologist.

Promotion of leadership skills and professional growth: one cytotechnologist completed the London Health Sciences Leadership Development Program, one pathologist participated on the executive board of the Canadian Society of Cytology, one was chair of the Canadian Coalition for the Prevention of Cervical Cancer and another participated in the Scientific Committee of the Quality Management Program and Licensing Service of Ontario branch of the Ontario Medical Association.
Report from the Medical Leader of Molecular Pathology, Dr. J.H.M.Knoll

The Molecular Pathology Group (MPG) at London Health Sciences Centre is comprised of Biochemical Genetics, Cytogenetics, Molecular Genetics/Diagnostics and Molecular Pathology and is part of 11 Provincial Regional Genetic Centres. Each laboratory is headed by one specialized MD and/or PhD with technical staff trained in molecular genetics and/or cytogenetics. Each of our clinical tests now 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. S. Chakrabarti (Pathology).

Test volumes (without changing the test menu) continue to increase each year (10-20% on average) and test complexities continue to increase significantly each year. 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 regimens have also positively impacted 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 next year we hope to secure resources to: 1) introduce microarray testing (which screens thousands of chromosomal loci) for high resolution detection of chromosomal rearrangements; 2) recruit a full-time doctoral level specialist in molecular genetics and cytogenetics to improve coverage for these subspecialties.

In addition to clinical laboratory testing, the MPG plays an active and vital role in teaching of undergraduate students, graduate students, medical lab technology students, residents and fellows at LHSC and UWO.
Oral Pathology – Report of Division Head, Dr. T. Daley

For the year July 1, 2009 to June 30, 2010, Oral Pathology has been extremely busy. The service work continues to slowly expand, making extra demands on all members of the Division. Tissue diagnostics and patient care continue to be significant, and the Division has gained high standing within both the dental and medical professions, receiving consultation requests from across Ontario, and from across Canada.

Teaching has been demanding as well. Dr Darling and Dr Daley have been developing three new courses for the Oral Diseases Section of the restructuring of the Dental School curriculum, in addition to their already heavy teaching load. Dr Daley is a nominee for the 3M-ESPE National Dental Teaching Award.

Basic research activity continues to be higher than at any previous time in the history of the Division. Drs Tommy Fok, Rebecca Woodford, and Edwin Chau, from the Graduate Oral and Maxillofacial Surgery Program are presently working on research projects under the guidance of Linda Jackson-Boeters, and supervision of Drs Darling and Daley respectively (the latter in collaboration with Dr Doug Hamilton, Oral Biology). Dr Karl Cuddy recently joined us as a graduate student under the supervision of Dr Darling. Dr Fok was awarded 1st prize for poster presentations at the annual meeting of the Canadian Association of Otolaryngologists in May. Dr Darling has been appointed to the editorial board of the journal, Head and Neck Pathology.

Medical Microbiology – Report from Division Head, Dr. R. Lannigan

Our first year as a section of the Department of Pathology has been a good one. One of our members Dr Mike John, was promoted to full-professor. Most of our efforts over the last year have been in preparing for the move to the new lab facilities at Victoria Campus. This is a long awaited move as we have been in our current "temporary" lab facilities since 1982! Needless to say we are looking forward to the move. During the influenza pandemic we were able to move the diagnostic methodology away from culture and DFA to molecular testing. It was a great improvement in terms of accuracy of diagnosis as well as the spectrum of respiratory viruses that can be detected. Supporting the infection control service is an ongoing challenge. The institutions have experienced substantial outbreaks due to Vancomycin resistant enterococci (VRE) as well as C. difficile. The overall demand for our services, across the institutions continues to increase and this is putting pressure on us. We are, like everyone else, being asked to cut our budgets in the face of increasing service demands. In addition we continue to have substantial numbers of retirements from our ranks and this is causing difficulties as new recruits, if we can get them, do not have the expertise or the efficiency of the retired staff. We estimate that in the last year we have “lost” over 200 years of expertise in our technical staff. Next year will see additional losses. Despite all of this, we are introducing a new graduate course for the department next year. Research is languishing at the moment as other pressures take priority.

Teaching commitments continue in the curricula of medicine, nursing, allied health, environmental sciences and the Ivey School of Business. Our residency training program is active with one individual at the PGY4 level. Sadly once this resident has completed training we will no longer be offering a Medical Microbiology residency training program.
Neuropathology – Report of Division Head, Dr. L.C. Ang

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

The neuropathology laboratory is run efficiently with very well-trained and experienced technologists. Two other technologists from other sections of the histology laboratory have been successfully trained to relieve the shortage left by the departure of 2 technologists. This year there was a gradual increase in attendance by neuropathologists during autopsy to cut and sample brains in unfixed state because of the provincial policy on organ retention for coroners’ cases.
Postgraduate Medical Education Programs

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

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

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

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

Graduating Trainees – 2009-10

Dr. Chad Luedtke – Anatomical Pathology
Dr. Harkiran Kaur – Anatomical Pathology
The PGY2 year of pathology training is the same for both programs, as there is much overlap in curriculum content and it gives new residents time to decide which program they wish to continue in. There were 12 residents in Anatomical Pathology, 2009-10 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 much practical exposure and opportunity for role-modeling. In addition to pathology residents, there was a steady stream of off-service residents and medical students doing electives, as well as observers from Canadian and International medical schools, such that the working space in the residents’ rooms was almost always filled to the seams.

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

In the CaRMS match, both of our PGY1 positions were matched in the first iteration (Queen’s and Memorial University). The program had two PGY2 residents, from Canadian Medical Schools (Schulich and Queen’s). The PGY3 year consisted of 3 residents, one from a Canadian medical school (Schulich) and two from international medical schools. The three PGY4 residents were two Canadian medical graduates (Schulich and McGill) and an internationally sponsored resident who had transferred within the department from Neuropathology. The final PGY5 year contained a Canadian medical graduate (McGill) and an international medical graduate. Spring 2010 saw both PGY5 residents pass their Royal College examinations. Both are currently doing subspecialty fellowships, one in Memorial-Sloan Kettering (New York) and the other in Toronto.
Neuropathology Resident Training Program –
Program Director Report,
Dr. L.C. Ang

There are 3 full-time faculty members in Neuropathology (Drs. Ramsay, Hammond and Ang) who are involved in the training of 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 AP. During the period of this report, there were 3 career NP residents in the program, one in PGY2 and 2 in PGY1. One PGY2 resident and one PGY1 resident were from Saudi Arabia sponsored by the Saudi Arabian Government. These residents will return to Saudi Arabia after completing their residency. The other PGY1 resident, a Canadian citizen, came through the CaRMS. During the year, a number of AP residents, Neurology residents and Neurosurgical residents completed their electives in our program. There was a visiting scholar from Sydney, Australia during the year. A few medical students from UWO and one medical student from Saba University also spent short periods with our program.

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

Two residents and the visiting scholar attended the CANP Annual Meeting at October 2009 in Nova Scotia. The visiting scholar, Dr. Joanne Sy won the Mary Tom Prize for the best clinical presentation for a trainee in the meeting.

Medical Microbiology Resident Training Program –
Program Director Report,
Dr. Z. Hussain

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

The training is aimed at developing skills in the following spheres of activity:

• Clinical consultations on the investigation, diagnosis and treatment of patients suffering from infectious diseases
• Direction of infection control programs across healthcare facilities
• Prevention and epidemiology of communicable diseases
• The scientific and administrative direction of the diagnostic microbiology laboratory
• Teaching at all levels
• Research in basic and applied Medical Microbiology
The Medical Microbiology Program is one of the smaller programs at Western and usually has only one or two postgraduates at any given time. The program offers a broad-based experience in laboratory and clinical areas; the five year training includes mandatory and elective rotations. The program works very closely with the divisions of adult and paediatric infectious diseases. Infectious Diseases consultants participate actively in structuring and supervision of resident training. Monthly rounds, 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 forefront in the fight against SARS, Avian and Swine flu and West Nile Virus just to name a few.

2008-09 members of the Medical Microbiology Residency Training Committee:
Dr. Anne-Marie Bompassaro (Clinical Pharmacist, Infectious Diseases)
Dr. Zafar Hussain (Program Director and Committee Chair)
Dr. Michael John (Medical Director, Infection prevention & Control)
Dr. Robert Lannigan (Medical Leader, Medical Microbiology, Infection Prevention and Control)
Dr. Sameer Elsayed (Infectious Disease Consultant, Adult)
Dr. Marina Salvadori (Infectious Disease Consultant, Paediatrics)
Dr. Ian James Stuart (Resident Representative)

Please note that the program is not accepting any applicant starting July 2010. After the completion of the present resident’s training (June 2011), the program will close.

### Postgraduate Trainees

#### Anatomic Pathology Residents
- Essie Mwamwenda-Heinrich PGY1
- Allison Osmond PGY1
- Rebekah Jacques PGY2
- Cady Pocrnich PGY 2
- Mara Caragea PGY3
- Iram Siddiqui PGY3
- Adina Irimies PGY4
- Hector Li Chang PGY4
- Sami Siddiqui PGY4
- Areej Shibani PGY5
- Mathieu Castonguay PGY5
- Susanne Chan PGY5

#### Neuropathology Residents
- Murad Alturkustani, PGY3
- Das Sumit, PGY2
- Fahd Al Sufiani, PGY2

#### Medical Microbiology Residents
- James Stuart, PGY5
Over the last few years the Department of Pathology Graduate Program has shown unprecedented growth. This is due to revamping of our existing research based graduate program, implementation of new and innovative graduate programs as well as launching of a course based (Pathologists’ Assistant) graduate program. The Department of Pathology is committed to graduate education, however, we foresee that further growth in our graduate program will be limited by the number of graduate faculty members in our department. This is largely 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.

Program Overview:
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 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.

In addition, we are committed to train professionals to address specific needs in healthcare. Our Course and Practicum Based M.Sc. Program, was designed to fill a gap in the healthcare setting and to train individuals who are qualified to function as tomorrow’s Pathologists’ Assistants (PA).

Graduate Student Enrollment:
In the last 7 years we have experienced an unparalleled growth in our pathology graduate education program. From a total 13 M.Sc. and 6 Ph.D. students in September of 2005, the enrollment increased to 29 M.Sc. and 7 Ph.D. students by September of 2009. 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. The PA training program has proved to be extremely successful. This is the only such training program of this type in Canada and is now fully accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS). This extremely competitive program continues to attract very high quality graduate students.

Table 1: Enrollment in Pathology Graduate Programs

<table>
<thead>
<tr>
<th>Academic Year</th>
<th>MSc FT</th>
<th>MSc PT</th>
<th>PhD FT</th>
<th>PhD PT</th>
<th>Total FT</th>
<th>Total PT</th>
<th>Total</th>
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<tr>
<td>2005-2006</td>
<td>11</td>
<td>3</td>
<td>5</td>
<td>1</td>
<td>16</td>
<td>4</td>
<td>20</td>
</tr>
<tr>
<td>2006-2007</td>
<td>9</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>12</td>
<td>6</td>
<td>18</td>
</tr>
<tr>
<td>2007-2008</td>
<td>14</td>
<td>4</td>
<td>5</td>
<td>1</td>
<td>19</td>
<td>5</td>
<td>24</td>
</tr>
<tr>
<td>2008-2009</td>
<td>17</td>
<td>3</td>
<td>4</td>
<td>2</td>
<td>21</td>
<td>5</td>
<td>26</td>
</tr>
<tr>
<td>2009-2010</td>
<td>23</td>
<td>6</td>
<td>5</td>
<td>2</td>
<td>28</td>
<td>8</td>
<td>36</td>
</tr>
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</table>
We believe that our research-based research 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.

Table 3: Graduating Trainees 2009-2010

<table>
<thead>
<tr>
<th>Name</th>
<th>Program</th>
<th>Supervisor</th>
<th>Future Plans</th>
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<tbody>
<tr>
<td><strong>Research Based Programs</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Marianne Beduhn</td>
<td>MSc</td>
<td>Dr. W.P. Min</td>
<td>Medical School, Bahamas</td>
</tr>
<tr>
<td>Katie Moisse</td>
<td>PhD</td>
<td>Dr. M. Strong</td>
<td>Journalism School, Columbia University, New York</td>
</tr>
<tr>
<td>Yufeng Zuo</td>
<td>PhD</td>
<td>Drs. C. Chakraborty &amp; B. Garcia</td>
<td>Dentistry School at Schulich School of Medicine &amp; Dentistry</td>
</tr>
<tr>
<td>Aminah Shunnar</td>
<td>MSc</td>
<td>Drs. M. Moussa &amp; B. Garcia</td>
<td>Job seeking, Dubai</td>
</tr>
<tr>
<td>Alexandria Kleiman</td>
<td>MSc</td>
<td>Dr. Z. Khan</td>
<td>Job seeking, British Columbia</td>
</tr>
<tr>
<td><strong>Course &amp; Practicum Based Program (PA Program)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rebekah Carter</td>
<td>MSc</td>
<td>Dr. S. Chakraborti</td>
<td>Pathologist’s Assistant, LHSC</td>
</tr>
<tr>
<td>Farhana Harji</td>
<td>MSc</td>
<td>Dr. S. Chakraborti</td>
<td>Pathologist’s Assistant, Windsor Hospitals</td>
</tr>
<tr>
<td>William Tsui</td>
<td>MSc</td>
<td>Dr. S. Chakraborti</td>
<td>Pathologist’s Assistant, York Hospital, Toronto</td>
</tr>
<tr>
<td>Christina Yang</td>
<td>MSc</td>
<td>Dr. S. Chakraborti</td>
<td>Unknown</td>
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</tbody>
</table>

GRADUATE EDUCATION COMMITTEE

Dr. Subrata Chakraborti, (Graduate Program Chair)
Dr. Zia Khan
Dr. Chandan Chakraborty
Dr. Hao Wang
Dr. Candace Gibson
Arthur Lau (Graduate Student Representative)
Dr. Bertha Garcia (Chair/Chief, Department of Pathology)
Ms. Tracey Koning (Ex-Officio – Graduate Affairs Assistant)

Course and Practicum Based Graduate Education Committee (GEC sub-committee)

Dr. Subrata Chakraborti (Program Director)
Dr. Mike Shkrum (Medical Director)
Dr. Bertha Garcia (Chair/Chief, Department of Pathology)
Dr. Candace Gibson
Dr. Nancy Chan
Dr. Madeleine Moussa
Mr. Michael Graves (Clinical Coordinator)
Dr. Rick Mann, Regional Supervising Coroner (Community Member)
Nathalie Fioratos (PA Student Representative)
Ms. Tracey Koning (Ex-Officio - Graduate Program Administrator)
### Table 3: Graduate Faculty

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

**Faculty supervisors and research areas:**

The Pathology Department currently has 23 Pathology faculty members approved for graduate student supervision; some of whom are heavily involved in the PA training program. Several of these individuals are also members of interdisciplinary graduate programs. Table 3 above, lists our graduate faculty members.
## Graduate Education Efforts
### Statistics for 2009-2010

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Description</th>
<th>Coordinator</th>
<th>Enrollment 2009-2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>9510</td>
<td>JOURNAL CLUB (1st YEAR MSc)</td>
<td>This course will emphasize critical review of the literature and also give the student an opportunity to practice his/her presentation skills. Research papers will be assigned for reading and presentation. Each student will be required to make at least two presentations during the year. One of these must consist of a presentation of their own research work. New students will be expected to present their initial thesis proposal presentation during the first four to six months of the course. Students provide written evaluation of one another’s presentations. The final grade is assigned by the course co-ordinator based on the student’s presentations, participation in and preparation for the seminar and assessment of written evaluations.</td>
<td>Dr. C. Chakraborty</td>
<td>23</td>
</tr>
<tr>
<td>9511</td>
<td>JOURNAL CLUB (2nd YEAR MSc)</td>
<td>This course will emphasize critical review of the literature and also give the student an opportunity to practice his/her presentation skills. Research papers will be assigned for reading and presentation. Each student will be required to make at least two presentations during the year. One of these must consist of a presentation of their own research work. New students will be expected to present their initial thesis proposal presentation during the first four to six months of the course. Students provide written evaluation of one another’s presentations. The final grade is assigned by the course co-ordinator based on the student’s presentations, participation in and preparation for the seminar and assessment of written evaluations.</td>
<td>Dr. C. Chakraborty</td>
<td>10</td>
</tr>
<tr>
<td>9610</td>
<td>JOURNAL CLUB (1st YEAR PhD)</td>
<td>This course will emphasize critical review of the literature and also give the student an opportunity to practice his/her presentation skills. Research papers will be assigned for reading and presentation. Each student will be required to make at least two presentations during the year. One of these must consist of a presentation of their own research work. New students will be expected to present their initial thesis proposal presentation during the first four to six months of the course. Students provide written evaluation of one another’s presentations. The final grade is assigned by the course co-ordinator based on the student’s presentations, participation in and preparation for the seminar and assessment of written evaluations.</td>
<td>Dr. C. Chakraborty</td>
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<tr>
<td>Course Code</td>
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<td>Course Description</td>
<td>Instructor(s)</td>
<td>Credits</td>
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<tr>
<td>9611 JOURNAL CLUB (2nd YEAR PhD)</td>
<td><strong>Graduate Education Efforts</strong> <strong>Statistics for 2009-2010</strong></td>
<td>This course will emphasize critical review of the literature and also give the student an opportunity to practice his/her presentation skills. Research papers will be assigned for reading and presentation. Each student will be required to make at least two presentations during the year. One of these must consist of a presentation of their own research work. New students will be expected to present their initial thesis proposal presentation during the first four to six months of the course. Students provide written evaluation of one another’s presentations. The final grade is assigned by the course co-ordinator based on the student’s presentations, participation in and preparation for the seminar and assessment of written evaluations.</td>
<td>Dr. C. Chakraborty</td>
<td>3</td>
</tr>
<tr>
<td>9240 UNDERSTANDING DISEASE (for both MSc and PhD also CPBGP)</td>
<td>Lectures and case studies dealing with fundamental aspects of disease processes. Subjects include cell injury; inflammation and repair; immunopathology; vascular disorders; and neoplasia. Lectures will be delivered conjointly with undergraduate students in the sciences and biomedical sciences program. Graduate students will have an additional online component that involves review of pathology case studies and multiple choice quizzes. Evaluation based on performance on the mid-term and final examinations, as well as the case study quizzes.</td>
<td>Dr. Candace Gibson</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>9514 ECOSYSTEM HEALTH</td>
<td>This multi-disciplinary graduate course will include a seminar presentation related to the student’s research project, a critical review of one contemporary ecosystem health research article in the peer-reviewed literature, a critique of one article in the popular press (newspaper or Internet), and preparation of a case study involving ecosystem health issues at either the national or international level. There will also be specialist guest lecturers discussing ecosystem health issues from different perspectives to assist in preparation of the case studies.</td>
<td>Drs. Jack Bend and Charles Trick</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>9500 BIOLOGY OF HUMAN CANCER</td>
<td>This course covers recent developments in carcinogenesis, including etiology, control of gene expression, oncogenes, suppressor genes, initiation, progression, mechanisms of chemical carcinogenesis and types of treatment. Offered in alternate years in the Winter term; this course will be offered again in January 2010.</td>
<td>Drs. J. Koropatnick and A. Tuck</td>
<td>35</td>
<td></td>
</tr>
</tbody>
</table>
### Graduate Education Efforts

#### Statistics for 2009-2010

**9520 PUBLIC AND PRIVATE PARTNERSHIP IN CANCER RESEARCH**

The Public and Private Partnerships in Cancer Research course has been developed in association with the UWO's Richard Ivey School of Business, the Department of Oncology at the Schulich School of Medicine and Dentistry, and the London Regional Cancer Program. The course coordinators are Drs. J. Koropatnick (Department of Oncology, LRCP) and J. Hatch (Ivey Business School). Basic and clinical researchers, industrial research partners, and business faculty will participate as trainers and mentors to develop the ability of cancer researchers to work with the private sector in translating new technology into clinical and community practice. Topics include: business approaches to cancer research and development; securing venture capital funds; appropriate recording, publishing, and disclosing of data to preserve intellectual property in a form appropriate for development by the private sector; generation of appropriate cancer research agreements; when, and when not, to form a company to develop cancer research ideas or products; government and regulatory body requirements for cancer drugs and treatments; and other relevant topics. The course is based on a mixture of lectures, business cases and workshops. The course is open to graduate students and clinical trainees in the CIHR - Strategic Training Program and to other graduate students and clinical trainees with permission of the course coordinators (subject to enrollment limitations). Winter term (January - April). This course will be offered again in January 2010.

**Course and Practicum Based Graduate Program (Pathologists’ Assistants)**

**9245 DISEASES OF ORGAN SYSTEMS**

Pathology 9245B is complementary to the introductory survey course of Pathology – Path 9240A – understanding disease. In this course we will see how all of those general pathological processes that were discussed in the previous course are applied in looking at specific disease of specific organ systems, or systemic pathology. *Lecture and case studies.*

**9561 FUNCTIONAL HISTOLOGY**

A detailed study of the microscopic structure of human, tissues and organs with emphasis on structure to function relationship as applied to the human disease process. Graduate students attend the lectures and microscopic sessions on a multi-header microscope with pathology faculty. *Lectures, assessment is by written examinations.*

**Drs. J. Koropatnick and J. Hatch**

**Dr. Aaron Haig**

**Dr. Nancy Chan**
Graduate Education Efforts
Statistics for 2009-2010

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Description</th>
<th>Instructor</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>9540</td>
<td>ENVIRONMENTAL PATHOLOGY</td>
<td>The pathology of occupational and environmental diseases, including information on recent developments and basic mechanisms involved in these diseases. Recognition of occupational and environmental diseases, early diagnosis, mechanisms of cell injury and regeneration, and the effects of a wide variety of toxic drugs, chemicals and UV and ionizing radiation are included. Lectures, assessment: written examinations and assignment.</td>
<td>Dr. C. Chakraborty</td>
<td>4</td>
</tr>
<tr>
<td>9541</td>
<td>ENVIRONMENTAL PATHOLOGY – SPECIAL TOPIC</td>
<td>Students who have taken Pathol 4400B (Env Path) within the last two years of study will be exempt from taking Path 9450, but will be required to conduct a literature or systematic review or case study on a selected topic in Environmental Pathology. This will be submitted as a written report and assessed by a Pathology faculty member.</td>
<td>Dr. C. Chakraborty</td>
<td>0</td>
</tr>
<tr>
<td>9550</td>
<td>INTRODUCTION TO FORENSIC SCIENCES</td>
<td>Examination of the medico-legal framework in investigation of the nature and circumstance of certain deaths. These forensic investigations involve experts in different disciplines assisting the coroner and police in resolving cases. Forensic pathology examines the effects of disease, particularly in sudden death, and effects of various external agents on the human body. Lectures, assessment is by written examinations and assignment.</td>
<td>Dr. M. Shkrum</td>
<td>4</td>
</tr>
<tr>
<td>9551</td>
<td>INTRODUCTION TO FORENSIC SCIENCES – SPECIAL TOPIC</td>
<td>Students who have taken Pathol 4500B (For Path) within the last two years of study will be exempt from taking Path 9550, but will be required to conduct a literature or systematic review or case study on a selected topic in Forensic Sciences. This will be submitted as a written report and assessed by a Pathology faculty member.</td>
<td>Dr. M. Shkrum</td>
<td>0</td>
</tr>
<tr>
<td>9575</td>
<td>GROSS PATHOLOGY</td>
<td>Students will receive hands-on instruction in how to perform an analysis, description, and dissection of all surgical specimens. This rotation will be supplemented by pathology rounds or small group discussions, as appropriate, to provide students with a complete understanding of the protocols for specimen examination and dissection. The students will be assessed on an ongoing basis by the laboratory supervisor. At the end of these rotations they will be examined in a viva. They will be given a pass/fail grade.</td>
<td>Dr. S. Chakrabarti</td>
<td>4</td>
</tr>
<tr>
<td>Course Code</td>
<td>Course Title</td>
<td>Description</td>
<td>Instructor</td>
<td>Credits</td>
</tr>
<tr>
<td>-------------</td>
<td>--------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-----------------</td>
<td>---------</td>
</tr>
<tr>
<td>9570</td>
<td>Autopsy Rotation</td>
<td>Students will receive hands-on instruction in the duties and responsibilities of the Pathologists’ Assistant, including organ examination techniques, tissue selection for microscopy, and autopsy reporting. The students will be assessed on an ongoing basis by the laboratory supervisor. At the end of these rotations they will be examined in a viva. They will be given a pass/fail grade.</td>
<td>Dr. S. Chakrabarti</td>
<td>4</td>
</tr>
<tr>
<td>9585</td>
<td>Research Project</td>
<td>Students will conduct an independent research project under the supervision of a Pathology faculty member. Independent study, systematic review and analysis of the medical literature, experimental design and analysis, and effective communication skills will be emphasized. <em>Students are required to submit a final written report and oral presentation to the department.</em></td>
<td>Dr. S. Chakrabarti</td>
<td>4</td>
</tr>
<tr>
<td>9562</td>
<td>Infectious Diseases &amp; Pathology</td>
<td>A detailed study of microbiologic organisms and how they cause disease. The course will be divided into two halves. The first half will cover the basics of microbiology and infectious diseases. It will cover the basic organisms and how they produce disease. This will be followed by a series of lectures dealing with the prevention and treatment of infectious diseases. The second half of the course will build on the material learnt in the first half and on the material presented in pathology 3240a. The second half will be a series of presentations by the course coordinator and the graduate students. Each presentation will be based on a specific infectious disease and will cover the etiologies, clinical presentation, diagnosis, lab investigations, treatment and prevention.</td>
<td>Dr. Keith Kwan</td>
<td>4</td>
</tr>
</tbody>
</table>
Undergraduate Education – Report of the Acting Undergraduate Chair, Dr. Zia Khan

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

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

Medicine
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 2009-10 there were 129 students are enrolled at the London site, and 30 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 curriculum provide the student with a solid grounding in the basic and clinical sciences. These two years are each divided into a series of systems-based courses:

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

Year Two
- Digestive System & Nutrition
- Emergency Care
- Endocrine & Metabolism
- Neurosciences, Eye & Ear
- Psychiatry & Behavioural Sciences
- Reproduction (Dr. M. Weir)
- Genitourinary System

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 medicine curriculum include a 52 week integrated Clerkship (Medicine 5475), Clinical Electives, and the Transition Period.
Meds IV – Clinical Electives:
The Department of Pathology offers an option in Clinical Anatomical Pathology to Phase IV medical students during Blocks I, II, III and IV at each of the teaching hospitals. The student/s may initially observe and later participate in the routine activities of the Clinical Department of Pathology. The student will be assigned to a staff pathologist for direction and supervision. The supervisor will negotiate with the student the terminal objectives of the rotation and the student’s learning goals. It is also possible for the student to select a topic of interest for in-depth study during the four week period related to a specific disease process, or specific organ system, or diagnostic procedure, e.g. electron microscopy, immunohistochemistry, cytology, molecular pathology, etc. An elective in Clinical Pathology is viewed favourably by Program Directors of various medical and surgical disciplines.

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

Dentistry 5202 - General and Systemic Pathology – Dr. J.A. Gomez, Course Coordinator
Fundamental disease processes and a survey of common disease entities which affect the different organ systems of the human body, knowledge of which is important to the practice of dentistry.

Dentistry 5204 - Oral Pathology – Dr. M. Darling – Course Coordinator
A study of diseases affecting the teeth, oral cavity and related structures. Forensic odontology, the oral manifestations of many systemic diseases, and the systemic manifestations of oral disease are also discussed. This course is taught to second year Dentistry students.

Dentistry 5304 - Oral Pathology – Dr. M. Darling – Course Coordinator
A lecture/seminar course dealing with clinical, microscopic and pathogenic aspects of diseases of, or affecting, the mouth, face and jaws. Students will be examined on basic oral pathology as well as material taught in this course. This course is taught to third year Dentistry students.

Internationally Trained Dentists – ITD5304 – Oral Pathology
(Formerly QP385 and QP304)
This course is for the dental students in the Qualifying Program and runs from September – April. The ITD students take this course in conjunction with the Dents 204 and 304 courses.

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

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

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

- Honors Specialization in Pathology & Toxicology
- Specialization in Pathology & Toxicology

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

Undergraduate Course Enrolment Data

Enrolment in the Pathology courses (see appended course listing) has been steady (a peak coincident with the double cohort occurred in 2006-07). Interest in these courses, particularly in the third year introductory survey courses, is high and we expect it to remain at current levels. Enrolment in the 4th year forensic science course is limited in part because of the sensitive nature of the material (i.e. it is not appropriate as a general interest course) and also because it is given in conjunction with the 4th year medical student elective in Forensic Pathology. The BMSc students receive part of their instruction along with these students.

<table>
<thead>
<tr>
<th>Undergraduate Course</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Path 240A</td>
<td>179</td>
<td>195</td>
<td>196 + 1 grad</td>
<td>162</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Path 3240A</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>148 + 12 + 12 grad</td>
<td>159 + 15 grad</td>
</tr>
<tr>
<td>Path 3245B</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>80 + 4 + 4 grad</td>
<td>91 + 4 grad</td>
</tr>
<tr>
<td>Path 4400B</td>
<td>50</td>
<td>67</td>
<td>60</td>
<td>42 + 2 grad</td>
<td>32 + 3 grad</td>
<td>39 + 3 grad</td>
</tr>
<tr>
<td>Path 4500B</td>
<td>26</td>
<td>24 + 1 grad</td>
<td>25</td>
<td>25 + 2 grad</td>
<td>27 + 3 grad</td>
<td>22 + 3 grad</td>
</tr>
<tr>
<td>Path-Tox 4980E</td>
<td>---</td>
<td>5</td>
<td>9</td>
<td>10</td>
<td>9</td>
<td>5</td>
</tr>
</tbody>
</table>

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:

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

Pathology & Toxicology – Graduating Students 2009-2010

<table>
<thead>
<tr>
<th>STUDENT</th>
<th>FACULTY SUPERVISOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Byrne, Christopher</td>
<td>Dr. Cindy L. Hutnik</td>
</tr>
<tr>
<td>Charlton, Brayden</td>
<td>Dr. Hao Wang</td>
</tr>
<tr>
<td>Huh, Kun**</td>
<td>Dr. Weiping Min</td>
</tr>
<tr>
<td>Lue, Sabrina</td>
<td>Dr. Tianqing Peng</td>
</tr>
<tr>
<td>Wang, Andrew</td>
<td>Dr. Chandan Chakraborty</td>
</tr>
</tbody>
</table>

**Winner of the Gold Medal in Pathology & Toxicology

Undergraduate Course Listing 2009-2010

<table>
<thead>
<tr>
<th>SECTION</th>
<th>COURSE</th>
<th>TERM</th>
<th>COURSE TITLE</th>
<th>ENROL #</th>
<th>COURSE COORDINATOR</th>
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</thead>
<tbody>
<tr>
<td>MEDICINE</td>
<td>Meds I (2013)</td>
<td>Sep - Jun</td>
<td>n/a</td>
<td>129 UWO 30 WIND</td>
<td>n/a</td>
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<tr>
<td>MEDICINE</td>
<td>Meds II (2012)</td>
<td>Sep - Jun</td>
<td>n/a</td>
<td>123 UWO 24 WIND</td>
<td>n/a</td>
</tr>
<tr>
<td>MEDICINE</td>
<td>Meds IV (2010)</td>
<td>Jan - Apr</td>
<td>Primary Care Pathology</td>
<td>80</td>
<td>Dr. Garcia</td>
</tr>
<tr>
<td>MEDICINE</td>
<td>Meds IV (2010)</td>
<td>Jan - Apr</td>
<td>Forensic Medicine</td>
<td>86</td>
<td>Dr. Shkrum</td>
</tr>
<tr>
<td>UNDERGRAD</td>
<td>Path 3240a</td>
<td>Sep - Dec</td>
<td>Understanding Disease</td>
<td>159</td>
<td>Dr. Gibson</td>
</tr>
<tr>
<td>UNDERGRAD</td>
<td>Path 9240a (Grad Students)</td>
<td>Sep - Dec</td>
<td>Understanding Disease for Graduate Students</td>
<td>15 grads</td>
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<tr>
<td>UNDERGRAD</td>
<td>Path 2420a</td>
<td>Sep - Dec</td>
<td>Pathology for Nursing Students</td>
<td>118/46/119</td>
<td>Dr. Gibson</td>
</tr>
<tr>
<td>UNDERGRAD</td>
<td>Path 4960e</td>
<td>Sep - Apr</td>
<td>Pathology &amp; Toxicology</td>
<td>5</td>
<td>Dr. Khan</td>
</tr>
<tr>
<td>UNDERGRAD</td>
<td>Path 3246b</td>
<td>Jan - Apr</td>
<td>Diseases of Organ Systems</td>
<td>91</td>
<td>Dr. Gibson</td>
</tr>
<tr>
<td>UNDERGRAD</td>
<td>Path 9246b (Grad Students)</td>
<td>Jan - Apr</td>
<td>Diseases of Organ Systems for Graduate Students</td>
<td>4 grads</td>
<td></td>
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<tr>
<td>UNDERGRAD</td>
<td>Path 4460b</td>
<td>Jan - Apr</td>
<td>Environmental Pathology</td>
<td>39</td>
<td>Dr. Chakraborty</td>
</tr>
<tr>
<td>UNDERGRAD</td>
<td>Path 9346b (Grad Students)</td>
<td>Jan - Apr</td>
<td>Environmental Pathology for Graduate Students</td>
<td>3 grads</td>
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<tr>
<td>UNDERGRAD</td>
<td>Path 4560b</td>
<td>Jan - Apr</td>
<td>Introduction to Forensic Sciences</td>
<td>22</td>
<td>Dr. Shkrum</td>
</tr>
<tr>
<td>UNDERGRAD</td>
<td>Path 9556b (Grad Students)</td>
<td>Jan - Apr</td>
<td>Intro to Forensic Sciences for Grad Students</td>
<td>3 grads</td>
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<tr>
<td>DENTISTRY</td>
<td>Dents 5170 (2013)</td>
<td>Oct-Mar</td>
<td>Oral Diseases</td>
<td>56</td>
<td>Dr. Darling</td>
</tr>
<tr>
<td>DENTISTRY</td>
<td>Dents 5162 (2013)</td>
<td>Oct-Jan</td>
<td>Systemic Pathology</td>
<td>56</td>
<td>Dr. GomezLemus</td>
</tr>
<tr>
<td>DENTISTRY</td>
<td>Dents 5202 (2012)</td>
<td>Sep - May</td>
<td>General &amp; Systemic Pathology</td>
<td>56</td>
<td></td>
</tr>
<tr>
<td>DENTISTRY</td>
<td>DDS364 (663)</td>
<td>Sep - May</td>
<td>Internationally Trained Dentists</td>
<td>13</td>
<td>Dr. Daley</td>
</tr>
<tr>
<td>DENTISTRY</td>
<td>Dents 5364</td>
<td>Sep - Dec</td>
<td>Oral Pathology</td>
<td>56</td>
<td>Dr. Darling</td>
</tr>
<tr>
<td>DENTISTRY</td>
<td>Dents 5264</td>
<td>Jan - May</td>
<td>Oral Pathology</td>
<td>56</td>
<td></td>
</tr>
</tbody>
</table>
Update on Professional Development, Dr. Chris Armstrong

The Department of Pathology Professional Development Committee oversees a variety of general and subspecialty pathology rounds, and assists in accreditation of these rounds with the Royal College. Pathology Grand Rounds occur on a monthly basis during the academic year, 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)
Dr. Chris Armstrong (Chair)   Dr. Nancy Chan
Dr. Bertha Garcia   Dr. Mariamma Joseph (former Chair)
Dr. Keith Kwan    Dr. David Ramsay

Pathology Grand Rounds 2009-2010

<table>
<thead>
<tr>
<th>Date</th>
<th>Speaker</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>October 14, 2009</td>
<td>Dr. Bret Wehrli &amp; Dr. Jason Franklin</td>
<td>“Tru” Indications For Core Biopsy Of Lesions Of The Head And Neck With Clinicopathological Correlation</td>
</tr>
<tr>
<td>November 18, 2009</td>
<td>Dr. David Driman</td>
<td>The Royal College: Demystifying Its Role In Residency Program Accreditation And Resident Assessment</td>
</tr>
<tr>
<td>December 9, 2009</td>
<td>Dr. David Ramsay</td>
<td>What Should You Do With An Unfixed (‘Fresh’) Autopsy Brain?</td>
</tr>
<tr>
<td>January 13, 2010</td>
<td>Dr. Robert Lannigan</td>
<td>Some “New” Issues About Viruses In The Practice Of Pathology</td>
</tr>
<tr>
<td>February 10, 2010</td>
<td>Dr. Christopher Vinden</td>
<td>Evidence Schmevidence: The Impact Of EBM On Colorectal Cancer Screening</td>
</tr>
<tr>
<td>April 14, 2010</td>
<td>Dr. Victoria Siu</td>
<td>Genetic Disorders In The Amish And Mennonite Communities: Genes, Geography, And Epigenetics</td>
</tr>
<tr>
<td>May 12, 2010</td>
<td>Dr. Michael W. Spence</td>
<td>The Role of Forensic Anthropology in Ontario Death Investigations</td>
</tr>
</tbody>
</table>
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 our research capacity, capability, productivity and impact. To that effect, the Department has been able to build an enhanced faculty complement (both basic and clinical), a significantly larger and more comprehensive graduate program and a small but very productive research faculty. At a recent retreat, Department members made a commitment to foster 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 in the following pages, researchers from the Department of Pathology are active participants in a majority 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 play leading as well as collaborative roles in the majority of the research areas of recognized excellence. Members of our department have developed collaborations with investigators from the Robarts Research Institute, Lawson Health Research Institute, and the London Regional Cancer Institute.

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, Hao Wang (cross appointee from Surgery), David White and Weiping Min (cross appointee 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. Ann Chambers (cross-appointee from Oncology), Alan Tuck, Chandan Chakraborty, Joan Knoll (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), 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 have produced many 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 (also CIHR-funded) with respect to signal transduction.

The recent recruitment of Dr. Zia Khan and appointment of Dr. Edith Arany to our department has further expanded the scope of vascular biology research. Dr. Khan’s research is focused on endothelial progenitor (stem cells) and their role in diabetic complications and in vascular tumours. 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.

**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 (Kul Bhatia, Economics; Bradley Corbett, Sociology [Statistics Canada]; Regna Darnell, Anthropology). These new additions to the Pathology Graduate Program complement existing research expertise in the Department (Jack Bend, Subrata Chakrabarti, Chandan Chakraborty, Bertha Garcia and Rob Hammond). The research efforts have received funding from Assembly of First Nations-Health Canada Environmental Contaminants Program Association of Universities and Colleges of Canada, UWO international curriculum funds and most recently, 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. 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 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 is in existence with active and key participation of our departmental members.

Faculty research interests
Adams*: hemochromatosis, liver diseases

Ang: neurodegenerative and neurotoxic diseases, CNS tumours

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

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

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

Gibson: neurochemical pathology, CNS aging & 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

McLachlin: Cervical cancer screening, HPV

Min*: immunomudulation, 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 2009-2010

<table>
<thead>
<tr>
<th></th>
<th>Peer reviewed journal articles</th>
<th>Books &amp; Book Chapters</th>
<th>Published Abstracts</th>
</tr>
</thead>
<tbody>
<tr>
<td>CTA</td>
<td>40</td>
<td>2</td>
<td>4</td>
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<tr>
<td>Basic Scientists</td>
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<td><strong>Totals:</strong></td>
<td><strong>55</strong></td>
<td><strong>17</strong></td>
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### Summary Grant Funding Data 2009-2010

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<th></th>
<th># Awards</th>
<th>Total Award</th>
<th>2009-10</th>
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<td>Externally Funded – PI</td>
<td>23</td>
<td>$5,405,092</td>
<td>$1,608,480</td>
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<tr>
<td>Externally Funded – Co-PI</td>
<td>13</td>
<td>$6,476,754</td>
<td>$1,443,184</td>
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<td><strong>Total External Awards:</strong></td>
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<td><strong>$11,881,846</strong></td>
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<td>Internally Funded – PI</td>
<td>19</td>
<td>$1,053,988</td>
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<tr>
<td>Internally Funded – Co-PI</td>
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<td>$4,804</td>
<td>$4,804</td>
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<tr>
<td><strong>Total Internal Awards:</strong></td>
<td><strong>20</strong></td>
<td><strong>$1,058,792</strong></td>
<td><strong>$311,159</strong></td>
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<tr>
<td><strong>Total Grant Funding:</strong></td>
<td><strong>56</strong></td>
<td><strong>$13,145,838</strong></td>
<td><strong>$3,362,823</strong></td>
</tr>
</tbody>
</table>

### Research Infrastructure:

The Pathology Department continues to provide a large number of core facilities which continually expand and enrich the research infrastructure at Western.

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

Dr. Chunyan Wang (Dr. Chakrabarti) – 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.

2009-2010 Zhong Research Seminars

<table>
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<tr>
<th>Date</th>
<th>Speaker</th>
<th>Topic</th>
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<tr>
<td>October 2, 2009</td>
<td>Dr. Richard Kim</td>
<td>“Patient Oriented Research and Personalized Medicine”</td>
</tr>
<tr>
<td></td>
<td>Departments of Medicine, Physiology &amp; Pharmacology Chair, Division of Clinical Pharmacology Director, Centre for Clinical Investigation &amp; Therapeutics</td>
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<tr>
<td>December 4, 2009</td>
<td>Dr. Peter K. Rogan</td>
<td>“In Silico Pathogenetic Analysis of Variants of Unknown Significance: Emphasis on mRNA Splicing”</td>
</tr>
<tr>
<td></td>
<td>Canada Research Chair in Genome Bioinformatics, Tier 1 Professor, Departments of Biochemistry &amp; Computer Science</td>
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<tr>
<td></td>
<td>President and Vice-Chancellor The University of Western Ontario</td>
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<tr>
<td>April 9, 2010</td>
<td>Dr. Geoffrey Pickering</td>
<td>“Vascular Regeneration and Therapeutic Angiogenesis – Striving for Form and Function”</td>
</tr>
<tr>
<td></td>
<td>Departments of Medicine, Biochemistry and Medical Biophysics</td>
<td></td>
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<tr>
<td>June 4, 2010</td>
<td>Dr. Paul Adams</td>
<td>“Diagnostic Tests for Iron Overload”</td>
</tr>
<tr>
<td></td>
<td>Department of Medicine Division Chief, Gastroenterology</td>
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</tbody>
</table>

2010 Annual Pathology Research Day – Dr. Alan Tuck, Coordinator

Pathology Research Day is one event that promotes 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.

Research Day was held this year on April 27, 2010. Our guest speaker was Dr. Susan Done, Associate Professor in the Department of Laboratory Medicine & Pathobiology, Laboratory Medicine Program, University Health Network, Toronto General Hospital. Her presentation was titled “Mapping Genomic Alterations Within The Breast In The Development & Progression Of Breast Cancer”
Pathology Research Day is accredited by the Royal College, Maintenance of Certification program.

2010 Research Day Awards
Chair’s Award for Best Presentation by a Resident
Dr. Susanne Chan

Second Place Award for Best Presentation by a Resident
Dr. Hector Li

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

Second Place Award for Graduate Students
Xusheng Zhang

Best Poster Presentation by a Graduate Student
Manpreet Singh

Challenges Ahead
Pathology has continued to make made excellent progress in research during the last year, however this real growth of research potential has not had a parallel improvement of our infrastructure, i.e. acquisition of quality research space and facilities. As indicated before, these are truly success stories. However, there are risks involved when the new recruits find themselves trying to operate in substandard facilities and inadequate research space. Furthermore lack of available research funds (due to bad economic times) may also impact negatively on our research endeavors.

UWO President & Vice Chancellor Dr. Amit Chakma, presented at the Robert Zhong Research Seminar in February 2010.
Research Funding

Peer Reviewed External Grants and Funding
July 1, 2009 to June 30, 2010

New Funding
1. Bend JR (PI), Jacobs D (PI), Witt N (PI). Health Canada Regional Environmental Contaminants Program. $227,487. 2009/06 to 2010/05.
4. Gabril MY (Site Investigator), Dr. G. Yousef. Investigating the factors affecting the metastatic potential of the renal tumors. Canadian Institutes of Health Research (CIHR). 2009/08 to 2010/08.
5. John, M (Site Investigator). A Survey of Health Care Professionals on the use of Personal Protective Equipment during the Pandemic H1N1 Influenza wave from September to December 2009. 2009/09 to 2010/12.

Continuing Funding
1. Bend JR, Jacobs D. Assembly of First Nations, four 1-year awards to date. Health Canada Regional Environmental Contaminants Program. $32,000. 2008/08 to 2009/07.
2. Rieder MJ (PI), Bend JR (PI), Chen D. (Fudan University) and Lau A. (University of Hong Kong). Ontario Ministry of Research and Innovation: International Strategic Opportunities Program (ISOP). $150,000. 2008/03 to 2011/04.
3. Rieder MJ, Bend JR (Co-I), Lau A. (U Hong Kong, co-applicants). Hospital for Sick Children Foundation. $64,000. 2008/01 to 2009/12.
4. Ferguson SS, Bend JR (Co-I). CIHR Research Resource Grant. $465,000. 2007/04 to 2012/03.
10. Baumann G (PI), Gómez JA (Co-I), Moussa M (Co-I). Histopathologic Validation of Pre-operative Prostate Cancer Imaging. CIHR Team in Image Guided Prostate Cancer Management. $4,642,805. 2008/04 to 2013/03.
15. John M. Evaluation of a Pilot Test of the Provincial Hand Hygiene Program for Hospitals. Ontario Ministry of Health & Long Term Care. $100,000. 2009 to present.
17. John MA (Site Investigator). Surveillance for Clostridium difficile associated diarrhea (CDAD) within acute care institutions. 2008 to present.
24. Xuan J (PI), Moussa M (Co-I), Yee SP, Bauman G, Fenster A. Molecular diagnosis and therapy of prostate cancer by UTMD (ultrasound targeted microbubbles destruction) technology in genetically engineered mouse models. Ontario Institute for Cancer Research. $542,449. 2008/07 to 2011/06.
Internal Grants and Funding
July 1, 2009 to June 30, 2010

New Funding

1. Driman DK, Caragea M, Sy J, Parfitt J. Tumor budding and perineural invasion are independent and reproducible prognostic factors in colorectal carcinoma. Pathology Internal Funds for Academic Development. $5,000. 2010/01 to 2011/12.
6. Wehrli BW, Weir MM. Immunomarker Validation Study for Cytology. The University of Western Ontario. $5,000. 2010/01 to 2012/03.

Continuing Funding

1. Ang LC. Cytogenic Study for Aggressive and Recurrent Meningiomas, using FISH probes for 1p and 14q. Pathology Internal Funds for Academic Development. $5,000. 2009/01 to 2010/12.
4. Driman DK. Use of an elastic connective tissue stain (Movat pentachrome) to highlight venous invasion in esophageal and gastroesophageal junction adenocarcinomas. Pathology Internal Funds for Academic Development. $5,000. 2009/03 to 2011/02.
11. Khan ZA (PI). Mediators of Hemangioma Stem Cell Plasticity. UWO Internal / Schulich School of Medicine & Dentistry GAP. $16,250. 2009/04 to 2010/03.
Publications, Patents, Book Chapters and Abstracts

Peer Reviewed Journal Articles (July 1/09 to June 30/10) – published and in press


42. Boyd K, Yardley N, Henderson C, Joseph M, Temple C. Optimizing cure rates for challenging facial malignancies: Experience in over 200 cases using a simple method to produce rapid, accurate, and high-quality frozen sections. 2010 In press Canadian Journal of Plastic Surgery


Patents


Books Published (July 1, 2009 to June 30, 2010)


Book Chapters Published (July 1, 2009 to June 30, 2010)


**Published Abstracts (July 1, 2009 to June 30, 2010)**


30. Xu J, Minuk L, Howson-Jan K, **Rizkalla K**. Case with a complex karyotype including t(8;14) and t(14;18) and preservation of follicular pattern in a transformed lymphoma. Abstract#1272/PB#930; 59th American Society of Human Genetics Meeting, Honolulu, Hawaii.


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**Invited Lectures and Scientific Presentations**

**Invited Lectures and Scientific Presentations (July 1, 2009 to June 30, 2010)**

1. Bend JR. The UWO Graduate Program in Ecosystem Health - Environmental Pathology. The 4th Ivey Chair Symposium: Ecosystem Health Toxicology, October 20, 2009.


3. Chakrabarti S. Demystifying endothelial cell signaling to identify novel treatment targets for diabetic retinopathy. Medical Research Foundation.


7. Feng B, Chen S, Wu Y, Chakrabarti S. MicroRNA 146a (miR 146a) in Diabetic retinopathy.. International Diabetes Federation meeting.


16. Darling M. Oral Pathology and Oral Medicine Continuing Education Course for General Dentists, University of Western Ontario. 2009 Nov 13:


31. John MA. An Update on STIs. 32nd Annual Guelph Sexuality Conference, Guelph, Ontario.


40. Lannigan R. H1N1. Canadian Association of Critical Care Nurses (CACCN) - London Regional Chapter.


42. Lannigan R, Kernaghan G, Warshawsky B. Emergency of Influenza A, How It Happens and What It Means for our Community and our Hospitals. Department of Medicine Friday Grand Rounds.


44. McLachlin CM. Political and Economic Update. Ontario Association of Pathologists, 72nd Annual General Meeting.


51. 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.
52. 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.
54. Weir MM. Thyroid FNA Terminology: From Bethesda to Beyond. Ontario Society for Medical Laboratory Sciences.
55. Weir MM. Thyroid FNA Terminology. Brampton Peel Memorial Hospital.
56. Weir MM. Use of Immunohistochemistry in Gynecological Tumours. Ontario Association of Pathologists.
Awards & Honours

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
The USC Teaching Honour Roll Award of Excellence
– Dr. Zia Khan

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. Mariam 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
2005-06
Schulich Educator Award – Dr. David Driman
Schulich Individual Faculty Award – Dr. Subrata Chakrabarti

Department of Pathology Awards

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

- 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

- 2010 Susanne Chan
- 2009 Mathieu Castonguay
- 2008 Chad Luetke
- 2007 Christopher Howlett
- 2006 Julia Keith

Second Place Award for Best Presentation by a Resident

- 2010 Hector Li
- 2009 Hector Li
- 2008 Bassem Moussa
- 2007 Bassem Moussa

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

- 2010 Andrew Pepper
- 2009 Andrew Pepper
- 2008 Katie Moisse
- 2007 Katie Moisse
- 2006 Amy Cook
Second Place Award for Graduate Students

- 2010 Xusheng Zhang (supervisor Dr. Weiping Min)
- 2009 Yuofeng Zuo (supervisor Dr. Chandan Chakraborty)
- 2008 Yuofeng Zuo (supervisor Dr. Chandan Chakraborty)
- 2007 Hao Wang
- 2006 Teresa Sanelli

Best Poster Presentation by a Graduate Student

- 2010 Manpreet Singh (supervisor Dr. Tianqing Peng)
- 2009 Arthur Lau (supervisor Dr. Zhuxu Zhang)
- 2008 Xusheng Zhang (supervisor Dr. Weiping Min)
- 2007 Lesley Souter (supervisors Drs. Ann Chambers & Alan Tuck)

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

- 2010 Matthew Riopel (MSc), and Kara McArthur (MSc)
- 2009 Kara McArthur (MSc)
- 2008 Mansa Krishnamurthy (MSc)
- 2007 Nelly Hashem (MSc) and Abudi Awaysheh (MSc)
- 2006 Jane Chiu (MSc), Jessica Saso (MSc) and Sarah-Kim Shields (MSc)

Dr. Cameron Wallace Graduate Student Award in Pathology

- 2010 Andrew Pepper (PhD)
- 2009 Xusheng Zhang (MSc)
- 2008 Mansa Krishnamurthy (MSc)
- 2007 Katie Moisse (PhD) and Yufeng Zuo (PhD)
- 2006 Hana Farhang (MSc)

Undergraduate Awards

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

- 2010 Peter Lynch
- 2009 Brandon Brillon
- 2008 Kun (Eric) Huh
- 2007 Michelle Hanna and Elizabeth Roach
- 2006 Maha Nasr
Gold Medal Award (for the BMSc. Pathology/Toxicology student with the highest grade)
- 2010 Kun Huh (Eric)
- 2009 Julie Koppes
- 2008 Amanda Vieira
- 2007 Heidi DeBoer
- 2006 Caroline Albion

PC Shah Scholarship Award
- 2010 Eric Bol
- 2009 Elizabeth Roach
- 2008 Nick Sutherland
- 2006 Erin Chapman

Colin Anderson Award (for the student with the highest mark in the course, Pathology 3240b)
- 2010 James Clem

Pathology is...

...the bridge between basic science and patient care.
...solving life’s mysteries.
...the final diagnosis.
...where things come alive!
...the eyes of humanity.
...the temple of truth.