

# LOVE YOUR LAB



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YOUR TEST...  
YOUR LAB!**

LABORATORY MEDICINE 2017  
FUNDRAISING CAMPAIGN



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## OUR BUSY DEPARTMENT OF LABORATORY MEDICINE

***Our Medical Laboratory needs \$700,000 to purchase essential equipment to help deal with the increasing demand.***

The Department of Laboratory Medicine is a busy department that serves every corner of our health care system, including hospitals, health centers, clinics, the extramural program, and point-of-care testing programs. Generally, with only 4-5 % of health care money, Laboratory Medicine supplies 60-70 % of information for medical decisions for patient screening, diagnosis, prognosis, and prevention.

The Department of Laboratory Medicine provides ~4.5 million tests per year for Fredericton and Upper River Valley areas. The service heavily depends on high efficient and high quality equipment such as analyzers, sample preparation/storage devices, and robotic automation.

## OUR LEADING MEDICAL STAFF

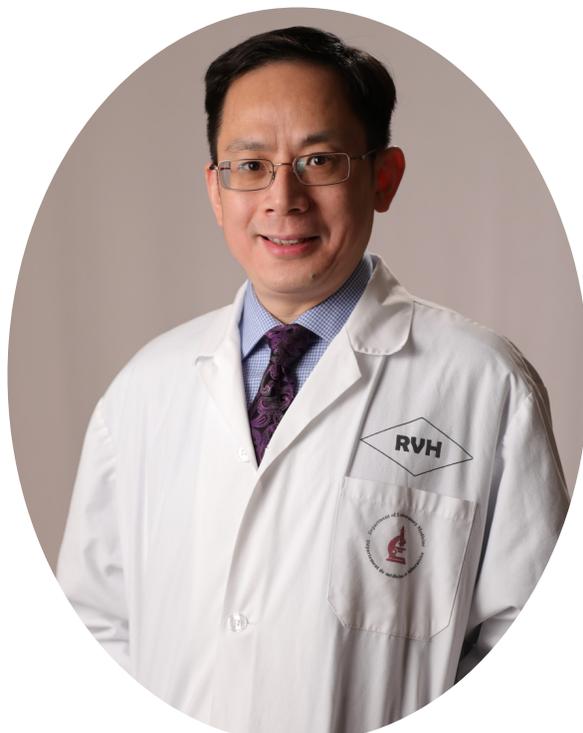
**Yu Chen, MD, PhD.**

Dr. Chen is a laboratory physician and the Chief and Medical Director for the Department of Laboratory Medicine and Pathology, of Horizon Health Network- Zone 3. He is an associate professor of Dalhousie University Faculty of Medicine.

Dr. Chen leads a team of over 130 laboratory specialists from Technologist to Pathologist. He explains "Laboratory medicine is an integral part of the health care system that relies on accurate and timely test results for patient screening, diagnosis, prognosis and treatment. The equipment we use is high-tech and needs replacing about every 6 to 7 years. With stringent public funding the department has only been able to obtain 1 to 2 replacement instruments per year for many years."

Dr. Chen is very active in his profession, serving on editorial boards for many medical journals, published over 40 research papers, and has received several distinguished awards in his field.

Dr. Chen moved from China in 2000 and now lives in Fredericton with his wife Wei Jiang and three girls Vera, Iris, and Fifi



*Dr. Yu Chen, Chief and Medical Director of the  
Department of Laboratory Medicine and  
Pathology*



## OUR LEADING TECHNICAL STAFF

### Erin Whitman

Erin Whitman is a Medical Laboratory Technologist with more than 16 years' experience working within the laboratory environment. She is well known within the local laboratory community as the "Lab Social Committee President".

Erin has been a lifelong New Brunswick resident, having grown up and completed her education within the province.

In 2002, Erin moved to Fredericton to start a new career, working within the DECRH Laboratory Chemistry Department.

Erin is very active with local and provincial laboratory associations and has volunteered countless hours to organize educational events, fundraise for various worthy causes and coordinate social activities for her peers. Erin is extremely passionate about raising awareness of the medical laboratory profession.

When she isn't working or volunteering, Erin has a busy life raising her 2 active children with her husband, as well as training for and participating in marathons; her time on the trails and roads gives her the mental clarity to consider what needs to be tackled within her professional and personal life.

Let's help Erin get the new equipment she needs to make her job more efficient!



*Erin Whitman, Medical Laboratory Technologist*

## MEET MARYANNE NOBLE

In 2015 Maryanne & Jeremy were pregnant with their second child.

During a routine ultrasound the technologist discovered that something was wrong. It was suspected that Maryanne may have a molar pregnancy, which happens when tissue that normally becomes a baby instead becomes an abnormal growth of cells and can spread throughout the body.

A few days later, Maryanne miscarried at home but her blood levels continued to show high levels of the hCG hormone which indicated that something was still not right. Appropriate treatment could not be offered without knowing what was causing the production of this hormone.

Maryanne endured many invasive medical tests and procedures including ultra sounds, hysteroscopic surgery, biopsy, x-ray, MRI and CT scans and had prepared herself for the worst. After having weekly blood tests and her gynecologist working with Dr. Chen in our Laboratory Medicine Department, it was discovered that Maryanne had the 1st Canadian case of a rare new disease, Quiescent Gestational Trophoblastic Disease (QGTD), only identified in 2001.

As a result of obtaining a proper diagnosis, extreme, invasive and life changing interventions such as chemotherapy and hysterectomy were averted. After several months her hormone levels returned to normal and Maryanne, Jeremy and their daughter, Katherine, went on to welcome a new addition to their family.

“Lillian was born in 2016 and I can honestly say that without Dr. Chen and the dedicated Lab team Lillian would not be here today,” says Maryanne. “I now have a greater appreciation for the significance of the work that goes on behind the scenes in Laboratory Medicine that have directly impacted my diagnosis, direction of treatment and mine and my family’s future.”

Dr. Chen’s work on Maryanne’s case has been written in journals and has helped other women escape extreme interventions like chemotherapy and hysterectomy.



*Maryanne Noble and her daughter, Lillian*



## THE NEED FOR UPGRADES

The Department of Laboratory Medicine serves every corner of our health care system. In order to provide sustainable reliable service they depend on high efficient and high quality equipment.

It is important to note that the equipment items on our list of Laboratory needs are not extras; they are essential.

- 1 Histology Specimen Tracking System**  
A tracking system will nearly eliminate opportunities for human error for specimen labeling issues, which will improve patient safety.
- 2 Hematology Enzyme Linked Immunosorbant Assay (EIA) and Immunofluorescence Assay (IFA) Analyzers**  
Our Lab is a leader in NB for the testing and monitoring of autoimmune disorders (i.e. Celiac Disease, Lupus, Rheumatoid Arthritis.) The analyzers will increase the testing capacity, and decrease the wait time for results.
- 3 Transfusion Medicine Automation System**  
Currently, all testing in Transfusion Medicine (the "Blood Bank") is performed using manual procedures, which can potentially result in serious or even fatal transfusion complications. The most important benefit of automation is reducing the risk for human error.
- 4 Microbiology CO2 Incubators**  
The CO2 incubator is a critical piece of equipment for the growth of certain infection causing bacteria. The current incubator is old. If it becomes unusable, specimens will have to be referred to other laboratories increasing the cost, wait time, and delay patient diagnosis and treatment.
- 5 Microbiology Matrix-Assisted-Laser Desorption/Ionization Time of Flight (MALDI-TOF) Mass Spectrometry Instrument**  
This instrument allows for a decrease in test results by at least 24 hours. This would be especially helpful to the most vulnerable patients like pediatric oncology, premature infants, and seniors.
- 6 Biochemistry Automated Urine Microscopy**  
Urine Microscopy is a high volume, time consuming test, with about 2700 performed each month. Automating this process will decrease the wait time for results, and provide objective, consistent results.
- 7 Ultracentrifuge**  
Lipemia (excessive amounts of fat and fatty substances in the blood) is most commonly caused by insufficient fasting time before a blood test. It can be a significant source of error causing delayed results and inaccurate diagnosis. Ultracentrifugation is the new standard to deal with these types of specimens. It is more efficient and will decrease the turn-around time providing results to the physician.
- 8 Gas Chromatographic (GC) software upgrade**  
The lab uses Gas Chromatography to test for certain volatile alcohols (i.e. rubbing alcohol, methanol) as well as ethylene glycol (i.e. antifreeze) in the blood. The current software is outdated and there is no support from the vendor. New software would be more reliable allowing for more consistent and timely results.
- 9 Macro digital imaging system**  
The digital image of surgically removed specimens (ie: organs and tissue) forms an important component in the diagnosis of disease. We currently lack the equipment for taking these digital photos. This system will enable the lab provide greater accuracy leading to better quality of care to the patient.
- 10 Automated microtome**  
The microtome is an essential piece of equipment in the Histology lab, cutting hair-thin sections of tissue for the diagnosis of disease. They give skilled technologists the precision and control needed to produce the best possible sample, while decreasing the repetitive motion of a manual instrument, which can lead to injury.



## OUR HOSPITAL

The Dr. Everett Chalmers Regional Hospital opened in 1976 and has been providing compassionate health care in our community for over 40 years. We have 315 beds and are recognized as a centre of expertise for reconstructive and restorative medicine. We are proud to have an expert, caring staff with up-to-date medical knowledge, and caregivers who work extremely hard on behalf of patients and their families.

## THE CHALMERS FOUNDATION

*Supporting healthy, caring communities*

The Foundation coordinates the generous support of our community, helping to provide our hospital with new equipment, education and enhanced treatment programs in order to improve patient care, expand services, and shorten waiting times.

Our task as a Foundation is to ensure that the hospital's medical staff has the tools they need to do their jobs well.

### FIND OUT MORE

To learn more about the campaign or to make a donation please contact the Foundation. We hope that you will support our Love Your Lab campaign.

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## INVESTING IN OUR COMMUNITY'S WELLBEING

Our Medical Laboratory needs \$700,000 to purchase essential equipment to help deal with the increasing demand.

Every dollar donated stays right here in our community, helping our neighbours, co-workers, and family members when they need it the most.

We hope that you will support our Love Your Lab campaign, and in doing so help make a difference in your community.