

THE BIOMEDER

UNIVERSITY
of GUELPH

The official newsletter of the Department of Biomedical Sciences



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Dr. Payne joins Biomed!

I am extremely pleased to announce that **Dr. Samantha Payne** will be joining our Biomed family on Sept 1st, 2021. Samantha is completing her postdoctoral fellowship at Tufts School of Engineering in Massachusetts, and will be teaching Veterinary Anatomy in Fall 2022. Sam completed her PhD at UofT and her primary focus of research will be in bioelectric signalling and regenerative medicine.

Please join me in
welcome Sam to
the department.

Welcome to
Biomed Sam!!!



Neuroscience Research Day

The Annual Neuroscience Research Day was held virtually on the UofG campus. The organizing committee was so grateful to everyone who presented and shared their work with our community. Special thanks to Dr. Shernaz Bamji for joining us as our Keynote Speaker.

The committee has consulted and confirmed, and we're pleased to announce the poster prize winners and honourable mentions from the 14th Annual Neuroscience Research Day:

UNDERGRADUATE student Winners - top 3 overall by normalized raw scores:

First Place: *Anthony Nguyen* from Craig Bailey's lab

Second Place: *Ashley Geremia* from Craig Bailey's lab

Undergraduate student Honourable Mentions (top 2 from each session not otherwise placing in the overall top 3):

Session 1:

Ryan McCallum from Craig Bailey's lab

Yasmine Al-Sabagh from Jibran Khokhar's lab

GRADUATE student Winners - top 3 overall selected by normalized raw scores:

Third Place: *Jude Frie* from Jibran Khokhar's lab

Graduate student Honourable Mentions (top 3 from each session not otherwise placing in the overall top 3):

Session 1:

Hayley Thorpe from Jibran Khokhar's lab

Jessica Ruffolo from Jibran Khokhar's lab

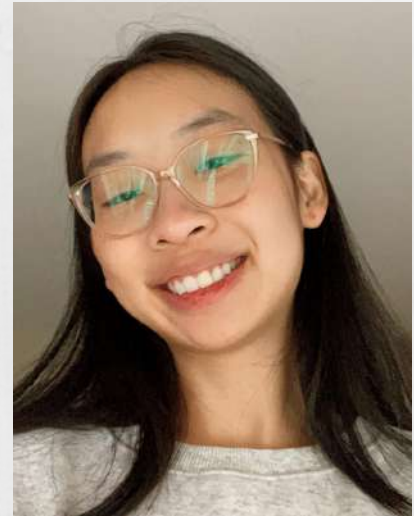
Anna Canella from Craig Bailey's lab

Thank you all for such a wonderful and exciting day of celebrating neuroscience at the University of Guelph and congratulations to our award winning graduate students!

Experimental Biology 2021 success!

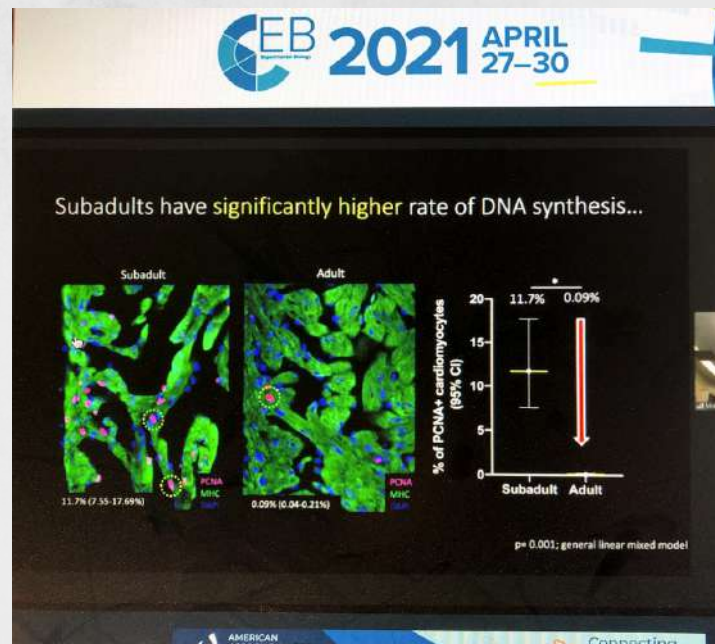
At the recent (virtual) Experimental Biology 2021 meeting, our very own Biomedical Sciences undergraduate student **Minh-Hanh Doan** (Vickaryous lab) was awarded **1st place for the American Association for Anatomy Undergraduate Student Poster Presentation Award**.

Minh-Hanh's poster, titled '*Ontogenetic changes in the reptilian heart: an investigation of cardiomyocyte proliferation and hyperplasia in the leopard gecko (Eublepharis macularius)*', was one of ten selected finalists. As a finalist, Minh-Hanh was also required to present her research as a 15-minute oral presentation. Her poster and talk were co-authored by PhD student **Kathy Jacyniak**.



Kathy also presented her own first-authored poster, while former MSc student **Laura Austin** and current PhD student **Chloe Graham** were invited to present their research as part of a podium session about central nervous system regeneration.

Congratulations everyone!



Kelly Tang receives a QEII, too!



You may recall that in last month's Biomedex, I reported that Janan Shoja Doost received a prestigious Queen Elizabeth II Graduate Scholarship. I am extremely proud to announce that **Kelly Tang** (MSc candidate, MacLusky lab) has also successfully been awarded a QE II as well.

Congrats Kelly!

Updates from the Martino lab

Dr. Tami Martino was very honoured to be invited to give a talk about her research on Circadian Medicine to the Ted Rogers Centre for Heart Research at the University of Toronto on May 25th, 2021. She was also invited to participate in the “Ask the Professor” career mentoring session following the talk.

Congratulations **Nina Harris** - Martino lab member & Biomedical Sciences Student - on her acceptance to the University of Toronto Medical School! Nina was a URA summer research student in our lab, and continued to collaborate with us throughout her undergraduate years. As a URA student, she won the award for best summer student researcher - for her microarray and bioinformatics studies on circadian gene expression in the heart. Nina was also a President's and Chancellors Scholar, our Undergraduate Executive Student for the Centre for Cardiovascular Investigations, and she attended many national cardiovascular and circadian biology conferences with our lab members. We're all so excited for you, congratulations and best of luck in the medical school!

Congratulations **David Friedman** – Martino lab member & Biomedical Sciences Student – on being awarded the Pari Basrur Research Prize – Undergraduate Research Award. David's research project investigated circadian rhythms in exercise physiology, with a focus towards when is the best time of day for cardiac rehab to improve outcomes in patients with cardiovascular disease. David was also our Undergraduate Executive Student for the Centre for Cardiovascular Investigations, and attended many national and international cardiovascular and circadian biology conferences with our lab members. Congratulations David, we're all very proud of you, and best wishes for the next steps in your career!!

Topic	Presenter(s)
"In vitro models of human cardiac diseases"	 Dr. Sara S. Nunes de Vasconcelos, PhD Scientist, Toronto General Hospital Research Institute (TGHRI), University Health Network Assistant Professor, Institute of Biomaterials & Biomedical Engineering, University of Toronto
"Circadian Medicine: The New Frontier in Heart Health and Treatments for Cardiovascular Disease"	 Dr. Tami A. Martino, PhD Distinguished Chair in Molecular Cardiovascular Research, University of Guelph Director, Centre for Cardiovascular Investigations (CCVI) Professor, Department of Biomedical Sciences, University of Guelph Career Investigator, Heart & Stroke Foundation: Circadian Medicine & Heart Health



Jibran recognized by CIHR College of Reviewers

It is my pleasure to inform you that **Dr. Jibran Khokhar** is now among a select group of reviewers who have been identified as an *Outstanding reviewer in recognition of his exemplary contribution to peer review for the Fall 2020 Project Grant competition*. Among the 1107 reviewers that participated in the competition, only 12.6% obtained this recognition. On behalf of the department, I want to congratulate Jibran on being recognized by CIHR and the College of Reviewers for his selfless generosity volunteering his time and expertise and for his commitment to excellence in peer review.

As part of the College of Reviewers' Institution Activity Report planned to be sent to our institution's Vice-President of Research in July 2021, Jibran will be recognized for this achievement.

CIHR recognizes that the integrity of peer review, which drives transformative health research investments, is fundamentally dependent on the dedication of reviewers. Canadians can be proud to know that as CIHR continuously strives to raise the standard for excellence in peer review, reviewers like Jibran will be leading by example.

Congrats Jibran!!



Dr. James Raeside turns 95 and Biomed turns 50!

HAPPY BIRTHDAY TO *DR. JAMES RAESIDE*, WHO TURNED 95 YEARS YOUNG ON MAY 21ST, 2021. ON BEHALF OF THE DEPARTMENT, I WANT TO WISH YOU MANY MORE YEARS OF HEALTH, SUCCESS AND HAPPINESS!



**THE DEPARTMENT OF BIOMEDICAL SCIENCES
FORMED IN 1971, IS 50 YEARS OLD!**

THE DEPARTMENT AS IT NOW EXISTS ORIGINATED FROM THE DIVISION OF PHYSIOLOGY IN OVC WHEN IT WAS RELOCATED TO GUELPH FROM TORONTO IN 1922, AND OVER THE YEARS THERE HAVE BEEN SEVERAL AMALGAMATIONS AND NAME CHANGES TO GET TO THE DEPARTMENT OF BIOMEDICAL SCIENCES IN 1971. A "BRIEF" HISTORY IS PROVIDED ON THE FOLLOWING PAGE.....

HAPPY 50TH BIRTHDAY BIOMED!!

Biomed, 50 years in the making...

THE FOUNDING AND ADMINISTRATION

LOCATED AT THE NORTH WEST CORNER OF EDINBURGH ROAD SOUTH AND STONE ROAD WEST ON LAND ORIGINALLY KNOWN AS GALE FARM, THE OVC RESEARCH STATION WAS ESTABLISHED IN 1957 AS AN ARMS LENGTH EXTENSION OF THE MAIN OVC CAMPUS FOR HOLDING RESEARCH ANIMALS AND THE CONDUCTING OF APPLIED AND BASIC RESEARCH IN PHYSIOLOGY AND OTHER VETERINARY SCIENCE DISCIPLINES. AT THAT TIME, THE DIVISION OF PHYSIOLOGY IN THE MAIN OVC BUILDING WAS PURELY A VETERINARY TEACHING UNIT HEADED BY DR. HENRY THOMAS BATT, SO TO ENHANCE VETERINARY SCIENTIFIC KNOWLEDGE, DR. HARRY GLENDINNING DOWNIE, BECAUSE OF HIS EXPERTISE IN THE CARDIOVASCULAR SYSTEM, WAS APPOINTED HEAD OF A NEW RESEARCH GROUP AT THE RESEARCH STATION.

AROUND 1950, DOWNIE HAD PREVIOUSLY BEEN APPOINTED AN ASSISTANT PROFESSOR IN THE DIVISION OF PHYSIOLOGY BEFORE GOING OFF TO GRADUATE SCHOOL AT THE NEW YORK STATE VETERINARY COLLEGE, CORNELL UNIVERSITY, THEN TO THE UNIVERSITY OF WESTERN ONTARIO. DURING THE INITIAL PERIOD, 1957-58, THE NEW TEAM WAS NAMED THE DEPARTMENT OF RESEARCH, COMPRISING FACULTY MEMBERS FROM ALL THE DISCIPLINES AT OVC, INCLUDING BACTERIOLOGISTS, PARASITOLOGISTS, PATHOLOGISTS, PHYSIOLOGISTS, VIROLOGISTS AND SPECIALISTS IN FUR BEARING ANIMALS AND WILDLIFE DISEASES. HOWEVER, THE APPOINTEES HAD BARELY BEEN ORGANIZED INTO THIS NEW DEPARTMENT WHEN THE POWERS THAT BE DECIDED THAT THE RESEARCHERS SHOULD REVERT BACK TO THE OVC DEPARTMENTS FROM WHERE THEY ORIGINATED, BUT CONTINUE TO BE HOUSED AT THE RESEARCH STATION. THUS, THE NON-PHYSIOLOGISTS JOINED THE THEN NAMED DEPARTMENT OF PARASITOLOGY, AND THE DEPARTMENT OF PATHOLOGY AND BACTERIOLOGY, THE LATTER INCLUDED THE SECTION OF FUR BEARING ANIMALS AND WILDLIFE DISEASES, WHILE THE PHYSIOLOGISTS JOINED A NEWLY CREATED DEPARTMENT. DR. JAMES I. RAESIDE, WHO DID HIS BSC DEGREE AT GLASGOW AND HIS MS AND PHD GRADUATE DEGREES AT MISSOURI, JOINED THE PHYSIOLOGISTS IN SEPTEMBER 1958 FROM A RESEARCH ASSOCIATE POSITION AT MCGILL UNIVERSITY. HE RECALLS IN JANUARY 1958 WHEN HE ACCEPTED TO COME TO GUELPH HIS APPOINTMENT WAS IN THE DEPARTMENT OF RESEARCH, BUT WHEN HE ARRIVED IN SEPTEMBER 1958 HE WAS IN THE NEWLY NAMED OVC DEPARTMENT OF PHYSIOLOGICAL SCIENCES, OF WHICH DOWNIE BECAME HEAD. THIS NEW DEPARTMENT ENCOMPASSED BOTH THE TEACHING CURRICULUM OF THE FORMER DIVISION OF PHYSIOLOGY AND THE PHYSIOLOGY AND ASSOCIATED RESEARCH PROGRAM OF THE SHORT LIVED DEPARTMENT OF RESEARCH. HAVING COMPLETED HIS DVM AND MVSC DEGREES AT OVC, A MS DEGREE AT CORNELL, AND A PHD AT THE UNIVERSITY OF WESTERN ONTARIO, HARRY DOWNIE, OVER A PERIOD OF TIME, WAS ABLE TO ATTRACT OTHER RECENT GRADUATES FROM WESTERN, NAMELY, DR. ART GRAHAM, DR. GERRY ROBINSON AND DR. FRED LOTZ. DR. DIETER GEISSINGER ARRIVED IN THE EARLY 1960'S AFTER COMPLETING HIS DVM AND MSC AT GUELPH AND HIS PHD IN LONDON, UK. FOR MUCH OF HIS EARLY RESEARCH, DR. DOWNIE HEADED A LARGE COLLABORATIVE STUDY ON ATHEROSCLEROSIS USING PIGS AS THE MODEL. J. FRASER MUSTARD, MD, PHD (CANTAB) FROM SUNNYBROOK HOSPITAL AND JOHN EVANS, MD, PHD, A FACULTY MEMBER IN THE DEPARTMENT OF PHYSIOLOGY, UNIVERSITY OF TORONTO, WERE ESSENTIAL TO THE STUDY, AND REGULARLY COMMUTED FROM TORONTO WITH THEIR ENTOURAGE OF ASSISTANTS TO PARTICIPATE IN THE SURGICAL PROCEDURES HEADED BY DR. DOWNIE. LATER IN THEIR CAREERS, MUSTARD (AT THE TIME OF WRITING IN AUGUST 2008) CONTINUES TO BE INVOLVED IN EARLY CHILDHOOD EDUCATION, AND EVANS BECAME PRESIDENT OF THE UNIVERSITY OF TORONTO. ALSO IMPORTANT TO THE STUDY WAS DR. HARRY ROWSELL, AN OVC GRADUATE WITH A PHD FROM MINNESOTA, WHO WAS NAMED HEAD OF THE DIVISION OF EXPERIMENTAL PHYSIOLOGY AT THE RESEARCH STATION FOLLOWING DOWNIE'S ELEVATION. ROWSELL'S "RIGHT HAND MAN" FOR ALL THESE STUDIES WAS JIM GILBERT WHO WAS ORIGINALLY FROM SCOTLAND. LATER, ROWSELL WENT ON AND CHAIRED THE CANADIAN COUNCIL FOR ANIMAL CARE. TO BOLSTER TECHNICAL ASSISTANCE, JACK CROSBIE, WHO RECEIVED HIS EARLY TRAINING AT THE DICK VETERINARY COLLEGE IN EDINBURGH, SCOTLAND, AND MRS. DELIA MARUCCI, A WIDOW WORKING TO RAISE HER DAUGHTER FRANCIS, WERE BORROWED FROM THEIR TEACHING DUTIES IN PHYSIOLOGY FOR THESE SURGERIES.

PRIOR TO 1964, THE RESEARCH STATION WAS FUNDED BY THE ONTARIO GOVERNMENT THROUGH ITS DEPARTMENT OF AGRICULTURE AND FOOD (LATER TO BE RENAMED THE ONTARIO MINISTRY OF AGRICULTURE AND FOOD OR OMAF, THEN OMAFRA, FOLLOWING THE AMALGAMATION WITH RURAL AFFAIRS. AT THAT TIME, STATION EMPLOYEES, WHETHER SCIENTISTS, TECHNICIANS, SECRETARIES OR ANIMAL ATTENDANTS WERE ALL CIVIL SERVANTS. WHEN THE UNIVERSITY OF GUELPH WAS FOUNDED IN 1964 BY AN ACT OF THE ONTARIO LEGISLATURE, ADMINISTRATION OF THE RESEARCH STATION CAME UNDER THE JURISDICTION OF THEN OVC PRINCIPAL TREVOR JONES WHOSE TITLE BECAME DEAN. RESTRUCTURING OF THE OVC CONTINUED OVER A NUMBER OF YEARS, AND IN 1967 THE DEPARTMENT OF PHYSIOLOGICAL SCIENCES WAS RENAMED THE DEPARTMENT OF PHYSIOLOGY AND PHARMACOLOGY WHICH STREAMLINED ADMINISTRATION WITH THE ELIMINATION OF SMALLER DIVISIONS WITHIN THE FORMER DEPARTMENT. THE LAST NAME CHANGE WAS MADE ABOUT 1971 UNDER OVC DEAN DENNIS HOWELL WHEN THE DIVISIONS OF MICROSCOPIC AND GROSS ANATOMY IN THE DEPARTMENT OF ANATOMY, AND IMMUNOGENETICS JOINED PHYSIOLOGY AND PHARMACOLOGY TO BECOME THE DEPARTMENT OF BIOMEDICAL SCIENCES.

Alicia's lab participates in research video

Dr. Alicia Vilorio-Petit and her the graduate students in her laboratory (**Anita Luu, Vanessa Huntley, and Paige Beettam**) have created a funky stop motion video to explain the comparative oncology research currently being done in her laboratory. This video was created as a complement for material they have prepared when giving science outreach talks in the various programs in which they participate in, such as *Geeky Latin@s* and *Let's Talk Science*. It is also a great way to promote OVC and Pet Trust-funded research, U o G research, as well as the DOGBONE research team that Alicia leads. Be sure to check out all these important contributors at the end of the video!

Check it out here: [https://uoguelphca-my.sharepoint.com/personal/aviloria_uoguelph_ca/Documents/Attachments/Comparative%20Oncology\(1\).mp4](https://uoguelphca-my.sharepoint.com/personal/aviloria_uoguelph_ca/Documents/Attachments/Comparative%20Oncology(1).mp4)

Congrats Alicia, Anita, Vanessa and Paige!

Publications from around the Dept this month...

Classical, Molecular, and Genomic Cytogenetics of the Pig, a Clinical Perspective.
Brendan Donaldson, Daniel A. F. Villagomez, and W. Allan King. Animals 2021, 11,
1257-1279.

Does miRNA Expression in the Spent Media Change During Early Embryo Development?
Paul Del Rio, and Pavneesh Madan. *Front Vet Sci.*, 2021 Apr 8;8:658968. doi:
10.3389/fvets.2021.658968.



Please do not hesitate to knock on my door (with your mask!) or contact me by email if you have ANY questions/concerns at tsaleh@uoguelph.ca

Stay safe, stay well

#biomedstrong